ARCHITECTURE DEPARTMENT **CHINESE UNIVERSITY OF HONG KONG**

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WATER CITY IN HONG KONG

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water city in Hong Kong
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the urban design section

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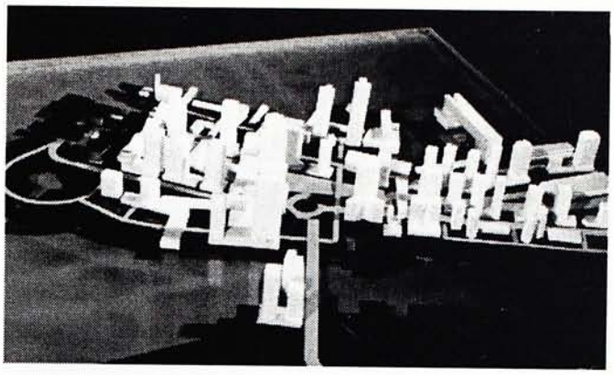
1.0 introduction:

1.1 the water city

This is a project aims at tie up relationship of human live, architecture and water using the context of Hong Kong. The scope of study would extend from the very large scale which is the urban design and planning to the very detail and small scale architectural design such as construction details. This series of exercises would aims at different aspect in exploring the relation of architecture and water.



model of urban planning exercise

1.2 the four different scales

The four exercises of different scales are:

1. the extra large scale - an alternate landfill proposal for Western Kowloon reclamation area, which is a replanning of West Kowloon reclamation area to provide more usable water front for public and improve accessibility of water front area.
2. the large scale - a design and planning of a comprehensive development area near the water front in the urban plannign exercise. This part aims at exploring variety of activities near the water front and different architectural planning with associate to water bodies.
3. the medium scale - an building deisgn of a recreation center and water front cafe. This is a more detail architectural planning with interaction to water body. Explore different moonds and human activities could be enhance through the design of building added with water as an design element.
4. The small scale - a detail studies on construction and materials. This is a study of technical implementation of the architectural design and investigation of character of the building with reference to construction details and choose of building materials

2.0 Why making a water city?

2.1 water is an unique asset to Hong Kong

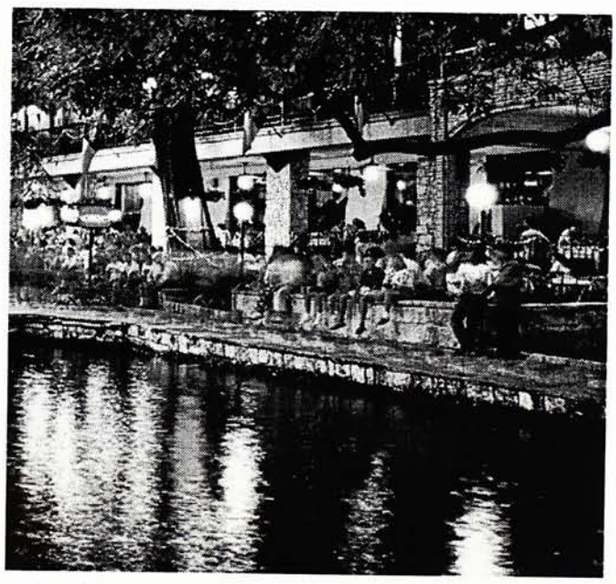
When we look back to Hong Kong, water bodies, are always her unique asset. The Victoria Harbor has the highest economic value since the British came in 1842. Having had hundred years development of the territory, buildings are now packed on the both sides of the harbor and still the harbor is the center of focus. Major daily activities in the harbor are cargo transportation by containers, tow ships running back and forth, ferries traveling to both sides and connecting outlying islands, private boats sail across, etc.. The water body is mainly used by marine transportation of goods and cargo in order to up-keep the economy and business of Hong Kong. However, the harbor is not seem to be respected by the government and general public which has been shown in the recent reclamation project. The area of our harbor is going to be smaller and narrower; water front would become harder to access because of the newly planned expressway run parallel to the coast line and the original inner city center (which originally is the water front) would be more far from the water in the future.

poster of anti-reclamation compaign

2.2 magical quality

Water possess a magical meaning to people and architecture.

> " *Water and Architecture have always had for me a part in balancing the yin and the yang, and of restoring some semblance of balance to our teetering world.....Water as architectural material was exuberantly out of step with the straight-laced times, being possessed of mysterious qualities that, for instance, related the water in a specific place with all the rest of the water in the world* " Charles W. Moore, Jane Lidz, *Water and Architecture*, Thames & Hudson, London, 1994



cafes along water ways, San Antonio River; extracted from *Water and Architecture*, Thames & Hudson, London, 1994

People like to look at water, travel on ferries and let sea breeze blow over their face, and even touch the water. Perhaps they like water because they need to have a balance psychologically between the hard element which is the built environment and the soft element which is the water bodies. Perhaps water is like greenery in an urban city. People like to have greenery in a city because they want balance of nature and the man made environment. Water can be treated in the same way with even more flexibility.

2.3 water can interact with architecture to have more urban life involved

Hong Kong's urban life always happens inland, mainly concentrate along shopping boulevard and huge shopping malls. If such activity magnet could be planned next to water front, on one hand it would be an improvement on the environment of such activity center, and on the other hand hand it also means a better utilization of water front in Hong Kong. Also water can act as an additional attraction to general public to go to if it is "well packed".

3.0 site and site selection

3.1 criteria

a) potential site for development

an area where has generous space and flexibility in context for testing different options

b) room for improvement

identify site area where is not yet well utilized on water front development, and has the greatest potential to be improved.

c) nature of site

the site area should be within urban district so that the project could demonstrate how public could be benefit from the improvement of urban water front.

3.2 west Kowloon

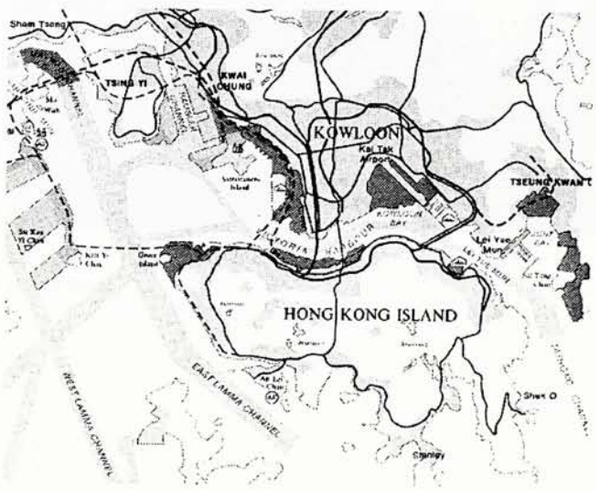
The new South Western Kowloon water front reclamation area together with Kowloon point which add up to around 340ha of land space is chosen as the site for the urban planning exercise.

3.3 problems and opportunities of reclamation plan in West Kowloon

The area is chosen since it has plenty of water space and land area, also because it has close connection with the existiing urban context.

3.4 shifting of urban center

The metroplan for the 21st century Hong Kong is obviously setting an action of shifting the urban center towards West. The location of the new development area such as West Kowloon, Western district on island side, new development of Green Island, Route no. 5, and Landtau forming a ring with the harbour as the center. It is easy to believe that the future urban activity center is going to shift to this district, with a bigger water body as the main focus.

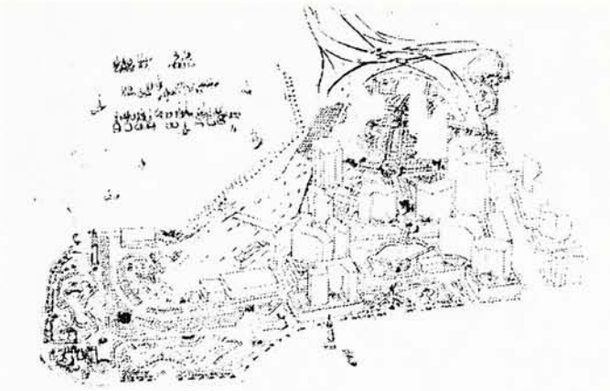


Hong Kong Port & airport development strategy, Survey and Mapping Office, Lands, Department, Hong Kong

4.0 site background

4.1 extent of government reclamation plan

The west Kowloon Reclamation project is just located out side of the original water front of west Kowloon. The whole reclamation area started from Cheung Sha Wan and down to Yau Ma Tei. An additional reclamation area of Kowloon Point would then added to the South portion of the project which serve as a connection from the newly reclaimed area to the old Tsim Sha Tsui.



impression drawing of new reclamation plan by TDD (extracted from West Kowloon Reclamation report August 1992)

4.2 cultural and social

a) Nathan Road

Nathan Road is the existing urban activity center of Kowloon Peninsula. It district on around the both sides of the road is highly mixed use of residential and commercial buildings. The road has a distinctive character of being a popular retail boulevard and tourist spot.

b) characteristic districts

There are some places in the district which has its own special character, such as the Temple street existed as night time bazaar; Jade market at Canton Road; wet market near Mongkok Road and the metal work shops around Reclamation Street. These areas existed quite a long history and should be identified as places for gathering people

Mongkok, one of the most busy and crowded place in Hong Kong

c) living environment

Since Mongkok and Yau Ma Tei are considered to be old district, most of the residents area living in a crowded environment. Some people area sharing flats some even living in "cage houses". Also because the area around is a popular shopping area, noise is another problem to the residents.

d) culture

compare to other activity center in Hong Kong, such as Tsim Sha Tsui and Central, the character of Mongkok and Yau Ma Tei is more close to popular culture; younger and casual in essence

e) Tsim Sha Tsui

Tsim Sha Tsui is more close to a commercial center in Kowloon, Most of the land usage is for hotels, retail shops, commercial buildings and cultural civic buildings. The place is existing as concentration area for tourist. The character of the place is more close to middle and higher class.

building massing and street grid at Mongkok and Yau Ma Tei

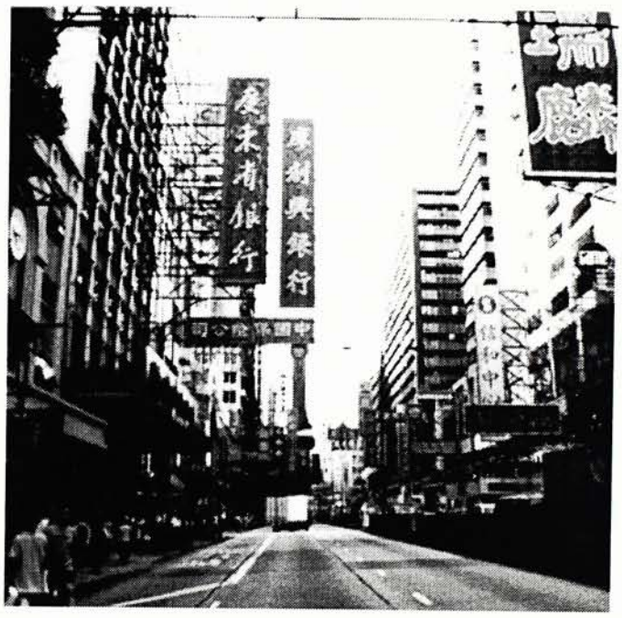
4.3 physical condition

a) building massing and street grid

Mongkok and Yau Ma Tei has quite a long history of development since the end of World War II, large amount of low rise (5 to 7 stories) residential blocks were built in the rectangular street blocks at about 40m x 90m big. The orientation of the street grid is layout in North-South direction. The development of recent years added more and more high rise commercial and residential blocks to the area. However those development only exist in rather small scale and tight site area. So that the existing building massing in Mongkok and Yau Ma Tei area is having great variations which is an agglomeration of high and low blocks.

b) Highly mixed use

The land use of the area has changed from mainly residential to nowadays highly mixed use of retail, commercial and residential and seems that the trend would be continue towards more and more commercial oriented. For example, the comprehensive development project of "bird street" site turns the area into purely commercial.



highly mixed landuse

c) the new proposed reclamation project

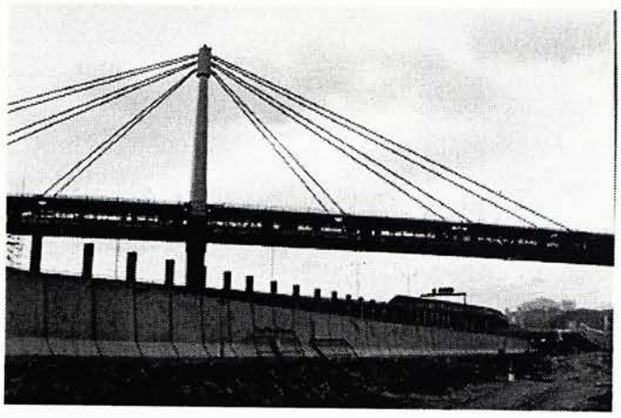
Street blocks for the new reclaimed area is larger, the size range from 90m x 70m to 250m x 400m. (refer to west Kowloon outline zoning plan). More than half of the reclaimed land area (183 ha)[1] would be assigned for roads and transportation usage.

[1] *The shape of things to come*, Planning, Environment and Lands Branch, Hong Kong Government, p.125 Table 6

5.0 site constraint

5.1 expressway and MTR network

The planned West Kowloon harbor crossing and associated expressway network would be remain undisturbed. So as for the MTR airport railway network layout.



the reclamation project undergoing at Tai Kok Tsui

5.2 sea channels and anchoring area

for the sea channels and anchoring area just out side of the west Kowloon water front, the basic location, layout and size would be maintained

5.3 landuse proportion

basic landuse pattern would be remain unchanged except the provision for open spaces, since part of the water area would be counted for trade-off of open spaces.

5.4 plot ratio

according to outline zoning plan for South west Kowloon, supplementary note, plot ratio for residential and commercial development are as follows[2]:

residential zone 1 R(A)1	domestic portion	6.5
	non-domestic portion	1.5
residential zone 2 R(A)2	domestic portion	5.5
	non-domestic portion	1.5
commercial		8.0
CDA	to be review by TPB	

5.5 building height control

general height control principle is that for the front row of building next to the water front should be maximum 30m high (with reference to the original design parameter in government's proposal) for the

[2] *South West Kowloon Outline Zoning Plan no. S/K20/2. supplementary note.*, Planning Department HK 1996

second row should be at maximum of 60m high.

5.6 recreational space provision

minimum of 5000m^2 of recreational space have to be provided with 2/3 active recreational space and 1/3 passive recreational space. However the waterfront park in the project is serving the whole south west Kowloon as a district recreational space, so the total area should be more.

city fabric being cut across by highways and flyovers

5.7 road area provision

1/6 of the development site area to be planned as roads and communication. (approximate area: 7.6ha. x 1/6 = 1.3ha.)

5.8 residential area provision

minimum size for one apartment flat to be 50m^2 [3]

number of persons per flats is 2.6 (2001 standard)

6.0 problems & opportunities

6.1 the Metroplan

The Metroplan proposed by the Territory Development Department in the 80's had proposed a large scale land reclamation for providing a solution to the land shortage problem. In past decade, the proposal started to be implemented and land fill works were done. Designers and planners had filled in the drawing of the reclaimed piece of land with roads, typical residential and commercial complex.

water front in Hong Kong can hardly be access

6.2 non-accessible sea front

Hong Kong is a place surrounded by sea, however not the entire or even a half of the urban area sea front is accessible by public. Large extend of sea front is occupied by industrial area, warehouses, and cargo working area. People now are fighting against this right to access sea front. In the government reclamation proposal, large portion of

[3] standard for residential zone 1 in Metroplan area, *Hong Kong Planning Standard and Guidelines Chapter 2, Residential Densities,* pp.26

land area is going to be used for the airport expressways parallel to the water front, and also the most valuable west coastal line would be used for cargo working area. This cut down a large portion of water front land which has potential to be developed as major commercial, residential, and recreational center for Kowloon Peninsula.
for the original government reclamation proposal, the waterfront next to the central portion is assigned for a sea shelter and cargo working area. The only accessible water front for public is the peninsula above the west harbor crossing entrance which is planned for a park.
Highways along sea front usually brings the problem of being physical barrier for pedestrian. The West harbor crossing road network can act as a physical barrier for the people who want to approach water front, since there is no attraction under the gigantic concrete structures of the highways and the environment under flyovers are really bad.

tiny open space in between road network

6.3 urban pockets and deteriorated open spaces

highway projects usually involve building fly-over. The spaces which under the fly-over and those cut out by the road pattern would become some area where are not easy to access. I would call those are the "urban pockets" which is like spaces that neglected by people. Having those areas, together with the highways, it would result in physical barrier to pedestrian. On the contrary it could be potential spaces for some special developments like covered retail paths or urban resting place provided that there is enough pedestrian connection
government planners have planned plenty of open spaces among the Metro-area. However, there are two problems concerning the open spaces in Hong Kong: the first is that some open spaces are badly maintained but still old people have to pack in; second is some open spaces are well defined and maintained but no one goes there. This resulted in

a lot of "deteriorated open spaces". which finally became "urban pockets".

6.4 interaction of water with human activities,

For the existing recreational water front in Hong Kong, Most of those places are hard landscape promenades along the coast. e.g. the promenade at T.S.T. East, water front park at Quarry Bay, and the Wan Chai water front. People can hardly have close contact with water body.

the typhoon shelter at Causeway Bay

6.5 visual connection

Most of the water front in Hong Kong are packed with tall and dense buildings, since they all want to maximize the sea view office space and living flats. As the result, visual connection from the inner city to the water is extremely weak.

6.6 the living standard of people

As the 21st century approaches, people in Hong Kong are better educated and wealthier. The quality of their living environment is being more and more care for. At the same time, the idea of environmental preservation is now more deep down in people's consciousness nowadays. The "water city" project could be a experimental project to make use of water body as one of the amenity elements and a special character of the urban area. If the project could work out a better environment by incorporate water body design in the district, it would be an example and direction which the Hong Kong future development projects could follow.

6.7 continuation

recreational water fronts in Hong Kong are always lack of continuation. For example, the TST East promenade end at a strange point near Hung Hom. On the contrary, the end at TST Pier is quite pronounce. The site for the "water city" is located at the end point of West promenade of the new water front. There is opportunity to be developed as a well connected and pronounce recreational spot.

6.8 Water front & activity center

The urban activity center and the water front are always separated in Hong Kong. Promenades in Hong Kong are usually hard landscaped area only, without any connection to other activities. Nathan Road is the existing urban activity center in Kowloon, in order to make the newly developed water front area to be another urban activity center, connection to the inner city and the functional attraction of the place itself have to be considered.

night-life in Mongkok

7.0 client profile

7.1 urban planning exercise

it is assumed that the planning department and the territorial development department is working as the client body which I am going to propose an altrnative scheme to the existing government proposal for west Kowloon reclamation area.

7.2 comprehensive development

the proposed project include mainly a residential and retail / recreational development, as well as minimum of 6 ha district plus local public open space. (refer to schedule of accommodation). The client for the public part is the urban council. For the private part is a private developer.

client's mission

1. urban council
   to provide adequate amount of active and passive open space[4] to serve the population of south west Kowloon.
   to provide enough "magnetic facilities" and enough access for ensuring the vitality of those planned open space. to provide a special park with integration of water body and using the water body as main attraction and focus.

[4] Passive recreation space: Areas (usually landscaped) where games facilities are not provides but where people can enjoy the surroundings in a leisurely manner. Active recreation space : Developed and managed area providing games facilities either free or at a charge. *Hong Kong Planning Standard and Guidelines Chapter 4, Recreation & open space* pp.2

2. private developer

   to provide sea view apartment for middle class people with the approximate price per sq. feet at $10,000 (luxurious standard with comparison of current property price)

   to provide a shopping and recreational area using the integration with water body as an attraction which planned to serve as an urban activity center for south west Kowloon besides Nathan Road.

arial view of reclamation project undergoing at West Kowloon

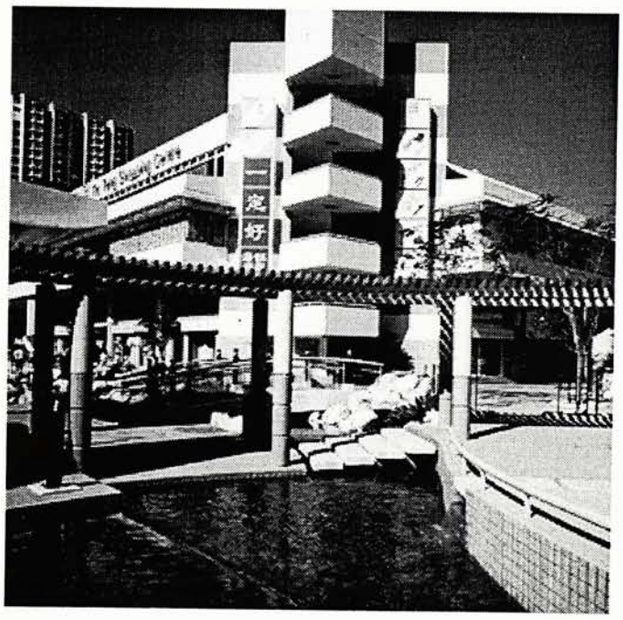
8.0 vision / mission

8.1 restructuring of the water front district

Alternative ways to the current sea reclamation proposal would be explore which would be done mainly through the interplay between form of land, architecture and the water body.

8.2 improve living environment

The project would also aim at creating active human-water interaction, to maximize the exposure of water to human and increase their physical and visual connections. Water will be a distinctive feature to the district.



Landscape area of Yiu Tung Estate, Shau Kei Wan (extracted from *HKIA Annual Awards 1994/ 95)*

8.3 enhance Hong Kong's identity

Through the creation of the "water city", to interpret Hong Kong's identity, highlighting the harbor as the unique asset and attraction of Hong Kong.

9.0 goals

9.1 maximize number of possibilities and compositions

of different reclamation structures. Explore different form of land with relate to the sea; rivers, and canals.

9.2 improve integration of architecture and water bodies.

Avoid strict and rigid concrete sea wall. Introduce smooth transition from water to the land and allow more activities to happen around.

9.3 introduce more activities around the water front.

Investigate if living, recreation, cultural / civic, transportation and economic activities can be benefited with the introduction of architectural-water bodies composition.

9.4 Improve accessibility to the waterfront.

Allow public to be able to go near the water bodies and enjoy the environment. Make use of the water front district to be designed for public entertainment and recreational use.

9.5 to interpret the "magical" quality of water in more tangible elements and architectural settings

in order to let more people can enjoy and appreciate. For example, different kinds of water bodies: like rivers, canals, fountains, still water ponds, water falls, have different meanings to human and possess different types of architectural qualities.

religious ritual of walking cross water pond to light up candles at Shimogamo Shine, Kyoto

10.0 performance requirement

10.1 activities

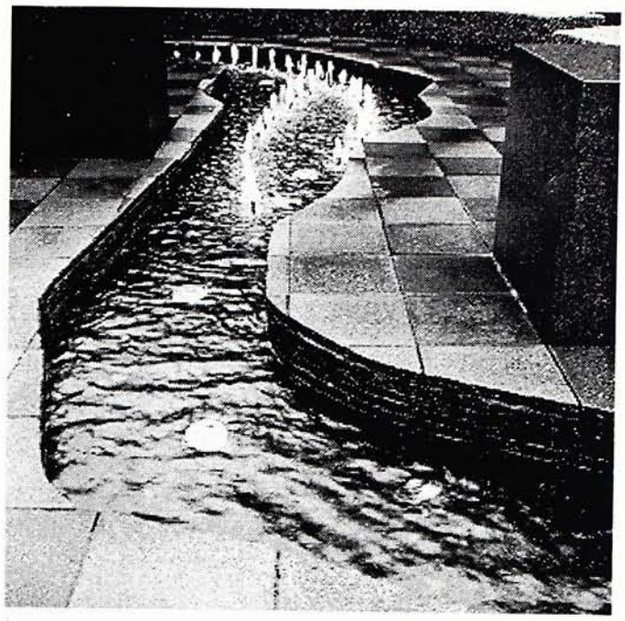
water front has to be tied with certain activities other than purely landscape space. People seldom go to water front for just go to water front. Either recreational purpose or for special reason, an active relationship of human activities and water bodies has to be established. For example, a drive way along the water front can be a scenic drive route, Bars and cafe can be located near to water front.

10.2 treatment of vehicular roads

Highways has to be carefully treated if those are along water front. Because highways could be a barrier to people in the inner city who want to access the water front. Some other cities would choose to sunken part of the road underground; some cities would increase pedestrian connections like built more foot bridges, and road cross facilities.

10.3 accessibility

In general, water front has to be highly accessible and close neighborhood linkage has to be established. Connections like neighborhood parks, landscape paths, shopping boulevards, cultural / civic spots, etc.. could be a media to tie up living environment and water front.



landscape area outside Tepia, Tokyo , by Fuhimiko Maki

10.4 communal-wise water city

water front should not be only enjoyed by single front row buildings. It has to be communal-wise. Creation of canals to introduce water elements; reserve visual corridor; control spacing of super towers; are ways to let the water front be share by the whole community.

10.5 Maximize water frontage

Frontage of water front could be increased by employing different shapes of structure

10.6 design of sea frontage detail

Strict and hard water front sea walls should be avoided, since they would constitute great waves within the harbor in Hong Kong.

10.7 continuation

continuation of water front promenade and landscape path has to be emphasis. It would contribute to the utilization of the water front, which can encourage more smooth and efficient pedestrian circulation flow.

10.8 ways of travel

different ways of traveling along water front could be introduce, such as, by boat, ferry, bicycle, vehicle, monorail, tram, and pedestrian walks. it could create different experience in appreciation of water front.

11.0 schedule of accomodation

11.1 the urban planning exercise

for the urban planning and district design exercise, basic landuse proportion of the government proposed plan is kept

1.0 residential area 29ha.

mixture of high-rise and low rise residential apartment blocks, community facilities like schools, market, health center, etc.

2.0 commercial area 36ha.

2.1. commercial blocks

office towers, urban landscape space, eating place, transportation arrival points, parking spaces, etc.

2.2. visitors facilities / hotels

traveler's information center, tourist spots with distinctive characters, hotels, pension, and hostels.

2.3 retail district and shopping boulevards

shopping streets / boulevards, malls, public gathering places, cinemas, eating places.

3.0 cultural / civic and recreational space 42ha

3.1 open spaces and natural district

Urban scale parks, greenery along roads, significant natural preserved area, green pedestrian path.

3.2 active recreation space

museums, cultural center, theaters, public art installations, sports fields, swimming pools, gymnasiums, public libraries.

4.0 water ways and water body definition

rivers, canals, harbor fronts, sea shelters, ponds, fountains in urban resting place, water and landscape gardens.

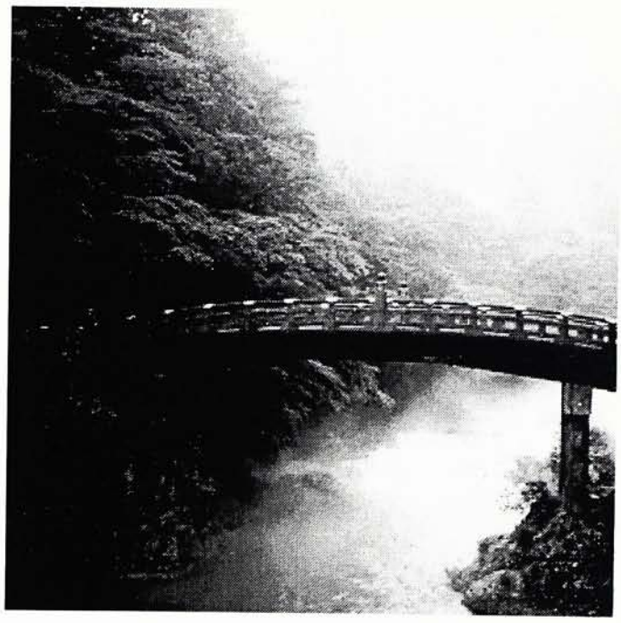
5.0 pedestrian walk network

promenades, scenic walks, vehicle-free pedestrian area, road crossing facilities, gathering nodes.

6.0 Road area and other use 44ha

6.1 transportation system

public transportation network, traffic terminals, transportation interchange point, tram way, road system, bicycle path, scenic drive.



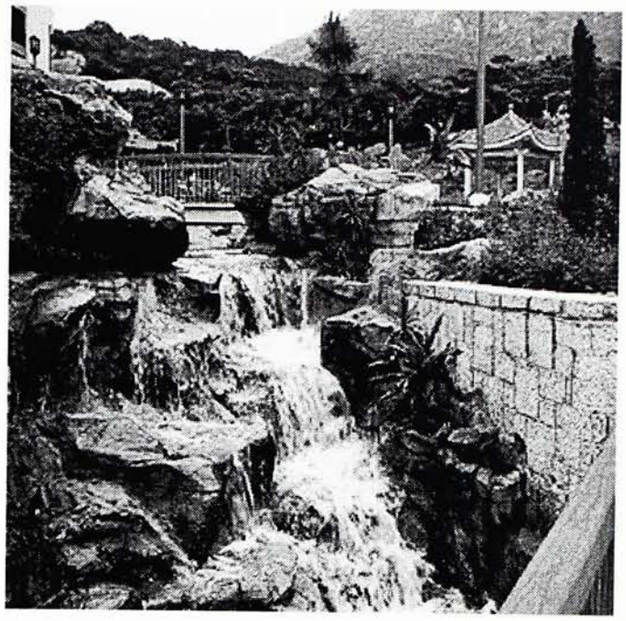
"god's bridge" in Nikko, Japan

6.2 m/e and utilities
transformer station, pump station, etc.

7.0 other districts has distinctive social character
jade market, temple street, boat nightclub, local bazaars, etc.

8.0 comprehensive development area 31ha.
designated for usage of commercial, or residential and mixed use

9.0 G /IC 26ha.
government and institutional buildings, community center, post office, police station



Cornwall Street Park, Kowloom Tong (extracted from *HKIA Journal Annual Awads & Exhibitions Issue no. 4 / special / 1996*)

11.2 the comprehensive development

1.0 open space	*30000m^2*
1.1 passive open space	15000m^2
changing rooms / toilets	
M/E and utility rooms	
general office	50m^2
jogging track	
bikeway	
eva	
1.2 active open space	15000m^2
1.2.1 indoor games hall:	
fitness center	1000m^2
games room	1000m^2
multi-purpose gymnasium	1250m^2
changing rooms / toilet	200m^2
ticket office / utility room	100m^2
m/e rooms	200m^2
1.2.2 water playground	2000m^2
1.2.3 swimming pool	4000m^2
filtration plant	4000m^2
m/e and utility rooms	300m^2
changing rooms / toilets	300m^2
1.2.4 cafe and bookshop	2000m^2

2.0 residential complex (assume 3 blocks to be built)

2.1 1900 flats with 50m^2 per flat (or 630 flats with 150m^2 each)	95000m^2

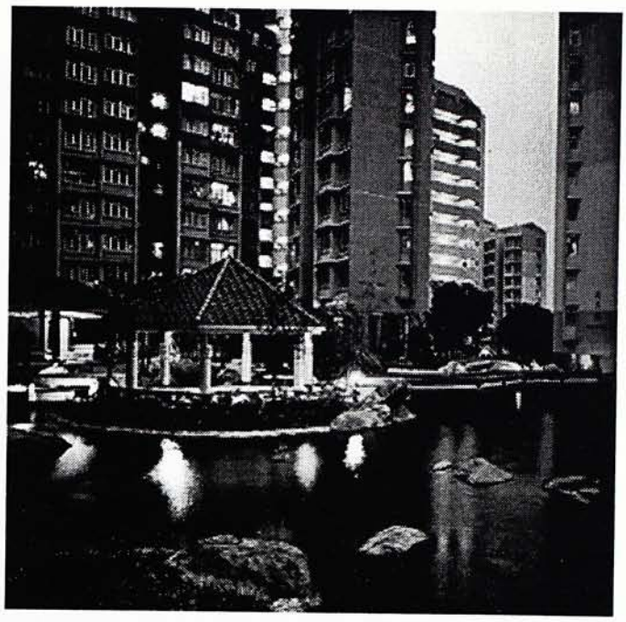
m/e rooms	1500m^2
elevator space	54m^2
2.2 car park spaces (640 nos.)	16000m^2

3.0 yacht club

3.1 boat yard	2000m^2
boat jetty	2000m^2
office	600m^2
club house cafe	300m^2
m/e space, utilities	300m^2
toilets	100m^2

4.0 commercial and entertainment complex

4.1 complex building	30000m^2
retail shops / department store	
restaurants / cafe / food plaza / pub & bar	
disco / lounge	
cinemas / theaters	
gallery / exhibition space	
utility / toilet / m&e	
car park space(500 nos.)	5000m^2
4.2 loading and unloading area	15 nos.
4.3 taxi lay-by	15 nos.
4.4 drop-off area	2 nos.
4.5 bus station	2 nos.
4.6 open-air cafe and restaurants	3000m^2



landscape area of Ma Hang Estate, Stanley (extracted from *HKIA Annual Awards 1994/95*))

12.0 subject analysis

12.1 urban design case studies

a) Amsterdam

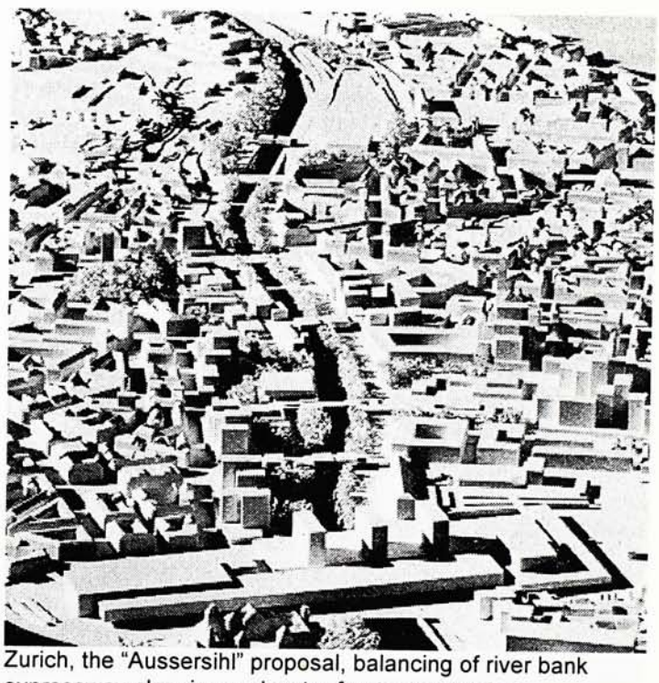
The form of the city in the history of Amsterdam was shaping the earth and water against the heavy odds of tide and flood for centuries. The way that Dutch people chosen was not to overcomeand fight against the forse of the sea, but to bring nature back into the city, let water to create parkland and amenity. They use canals and rivers to build environmental quailty into a growing urban region. Recreational open space, aesthetic settings, outdoor leisure points which related to the rivers and canals area woven into the city fabric.


Amsterdam, a city with river and canals as the identity

Reference:
Roymann, Rivers in the city, Praeger Publishers, New York, Washington, 1973
Charles W. Moore, Jane Lidz, Water and Architecture, Thames & Hudson, London, 1994

b) Zurich, Development at river Limmat and Sihl

In 1962, The federal government of Swiss approved the plan for Sihl expressway as part of the Swiss National; high-way network, which was going to build an express way network on the river bank of river Limmat and Sihl, the central urban water front area of Zurich. Having the city's adverse response on the project, study committee was set up for reviewing alternate proposals. Finally, after reviewing four proposals by architects and planners, a scheme which was to build the expessway tunnel on the left bank of the river Sihl was choosen. It is a project showing the balance of consideration of economic factors, public opinion, transportation efficiency, effect to living environment and preservation of water front in urban area. The process of reviewing and modifying a government proposal by inputing general public's opinion is the most valuable point for us to study.


Zurich, the "Aussersihl" proposal, balancing of river bank expressway planning and water front preservation

Referance: Roymann, *Rivers in the city*, Praeger Publishers, New York, Washington, 1973

c) Pier 39, a water front redevelopment aiming at improving urban living environment and enhance the city's identity

The redevelopment project in Pier39 was a conglomerate of commercial for renovate the old pier. Restaurants, specialty shops, play facilities, berths, parking lots and water front parks were planned to be introduce to the development. The project shows the possibility of integrating old piers with commercial and retail facilities which bring people more close to the water front.

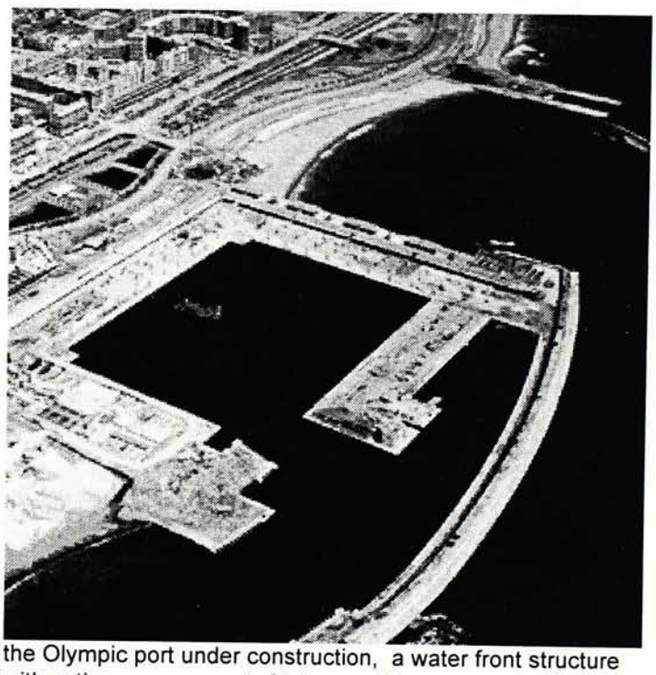
Reference: *Process Architecture, no. 96, Composition of Oceanic Architecture*

Pier 39, a water front redevelopment aiming at improving urban living environment and enhance the city"s identity

d) La Villa Olimpica, Barcelona

New policy of urban development was set out to introduce a series of transformation process to Barcelona in 1980. The policy was carried out based on key projects and pin pointing on urban space. Barcelona was norminated as the Olympic host in 1992. The Olympic facilities were determined to be located in four areas in the city included a sea front district, called Nova Icaria. The place was an industrial sector bordering the Mediterranean. It was identified might be the first link in extensive project which would open the city to the sea with creation of residential neighborhood.

Reference: Martorell, Bohigas, Mackay, Puigdomenech, *The Olympic Village, Barcelona 92*, Editorial Gutavo Gili, S.A., Spain, 1992

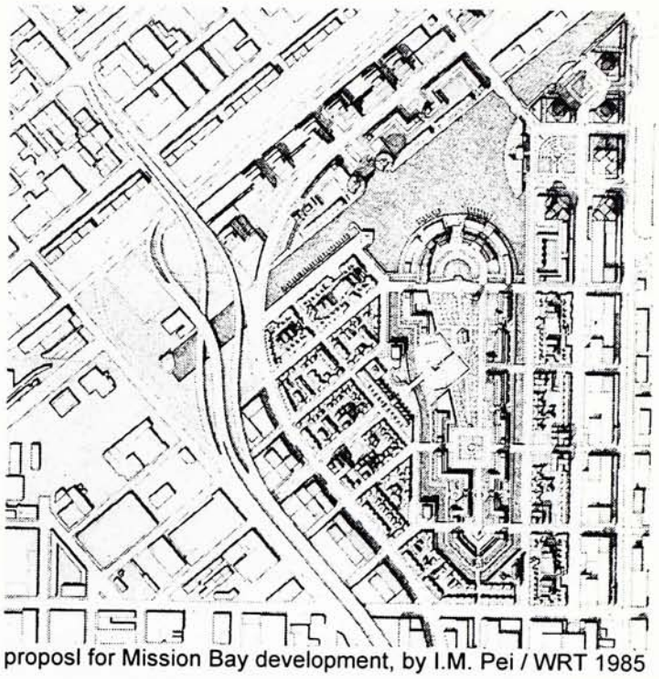


the Olympic port under construction, a water front structure with active engagement of leisure and recreational activities

e) Mission Bay

The development project in Mission Bay was a major housing and commercial development planning. Low dense and high dense housing, hotels, office, service, light industries, neighborhood retail, communal spaces, cultural facilities and open spaces are provided / planned. Four development schemes were done at the period from 1984 to 1989. All schemes have the consideration on utilizing water front as a focus for communal-wide amenities, recreational spaces and gathering place for general public.

Reference: Progress Architecture, Vol. 71, no. 5 1990

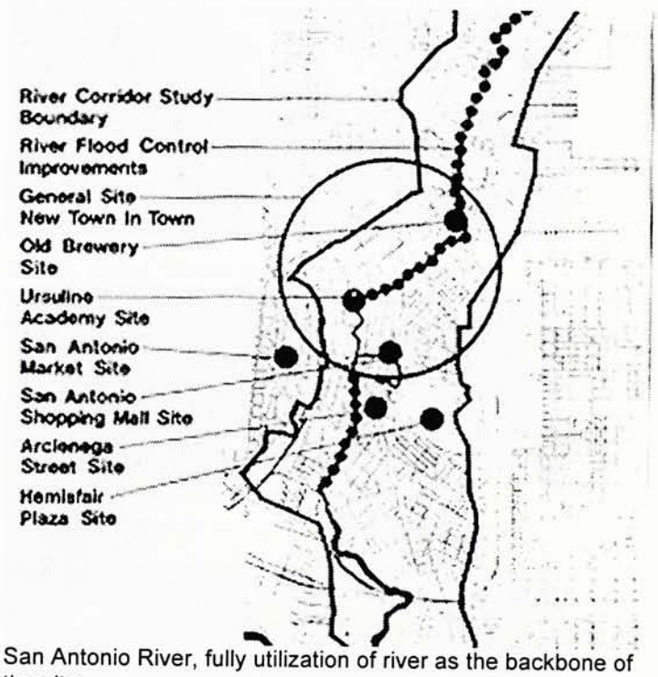


proposl for Mission Bay development, by I.M. Pei / WRT 1985

f) San Antonio, Texas

The project was restructure of the river basin district of San Antonio river. Issues of transportation, residential / commercial spaces demand, social facilities, etc., have to be address. However, the aims of using the river as the regional culture corridor, and creating the river as the neighborhood to the city were chosen to be the main planning direction. Avtivity points, river side walks, river side cafe, water front cultural facilities were planned along the San Antonio river. Using a natural river as the center of the city's development. They had successfully identified its potential aspects and make well planning to preserve, redesign and revitalize the district.

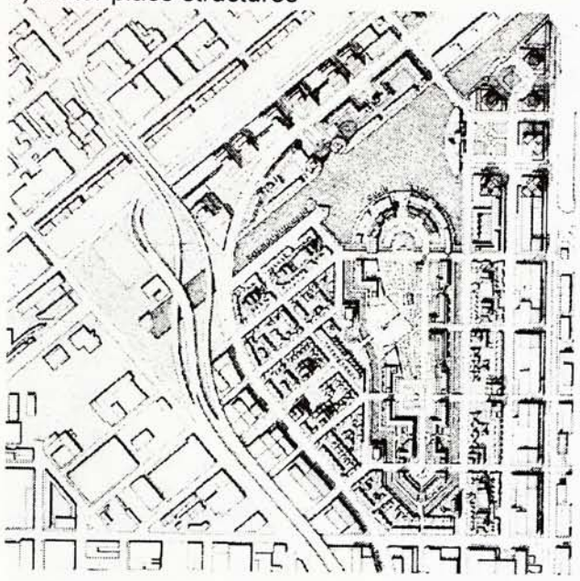
Reference: Skidmore, Owings & Merrill, Marshall Kaplan, Gans and Kahn, *the San Antonio River Corridor, Interim Report for community review, Feb., 1973*



San Antonio River, fully utilization of river as the backbone of the city.

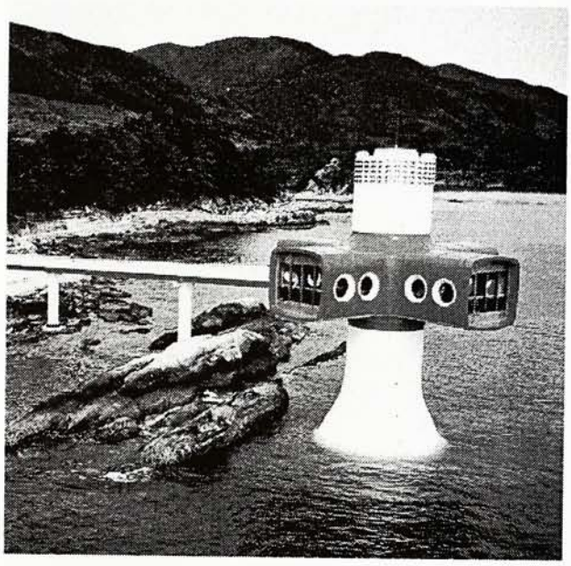
12.2 precedent studies

a) water place structures

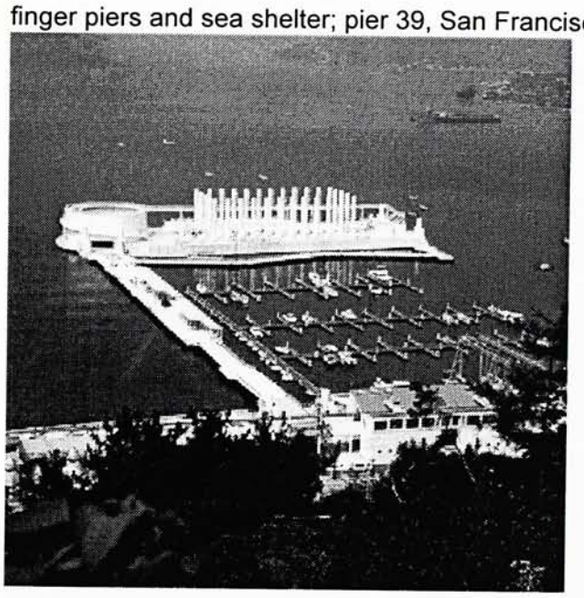


canals and water ways; Mission Bay, San Francisco

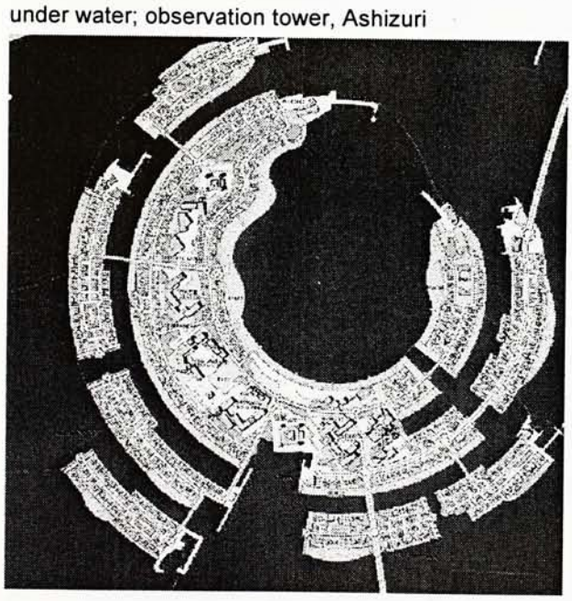
finger piers and sea shelter; pier 39, San Francisco



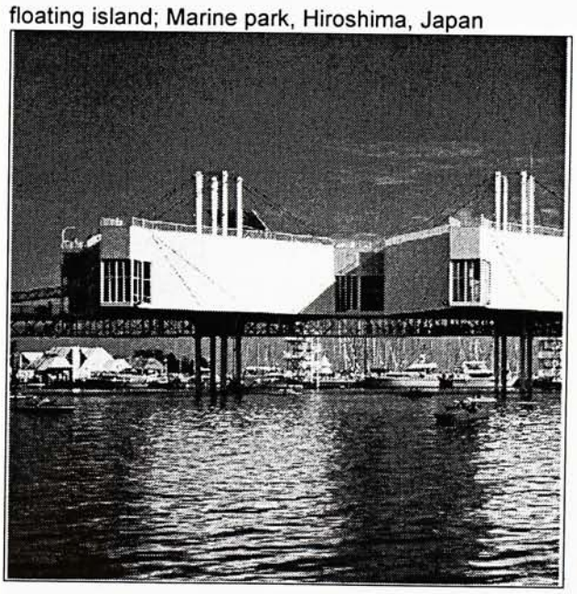
under water; observation tower, Ashizuri



floating island; Marine park, Hiroshima, Japan

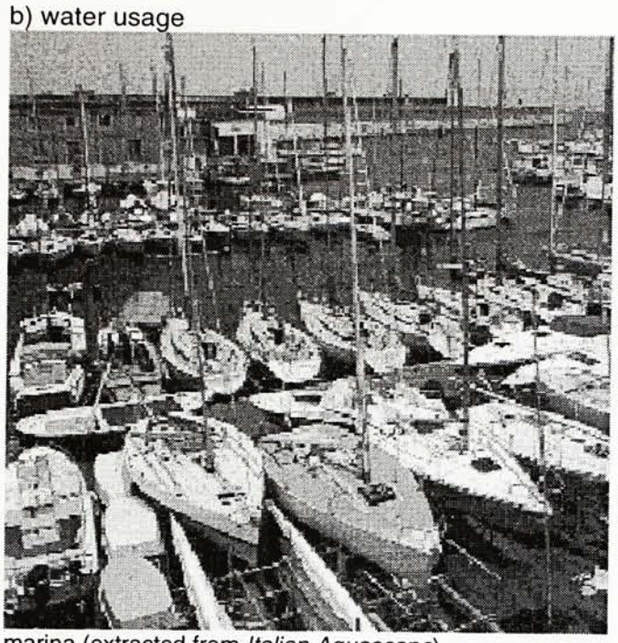


isolated island; Shuwaikh island community, Austrilia

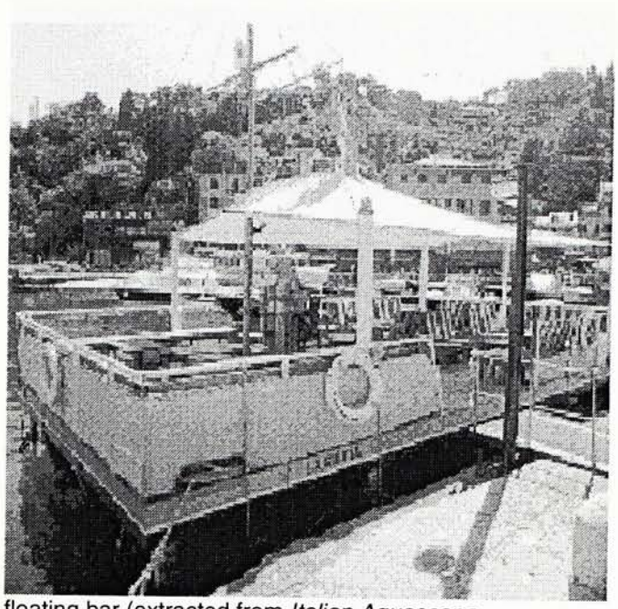


span over wate; Pod Complex, Ontario Place

b) water usage



marina (extracted from *Italian Aquascape*)



floating bar (extracted from *Italian Aquascape*

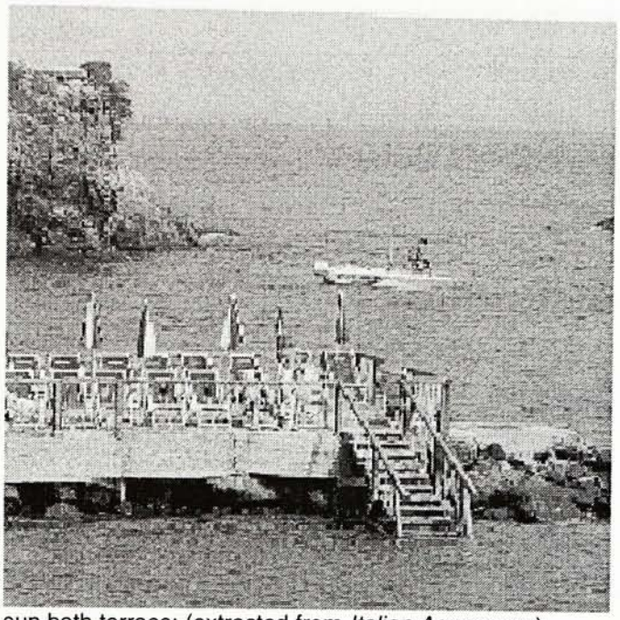
boating and canoe rowing (extracted from *Water and Architecture)*

fishing (extracted from *Italian Aquascape*

landscaping (extracted from *Italian Aquascape*

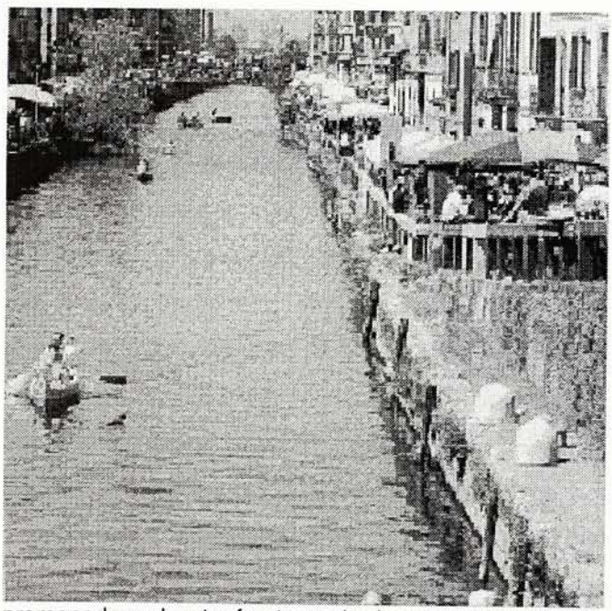
swimming (extracted from *Italian Aquascape*

c) water front landuse

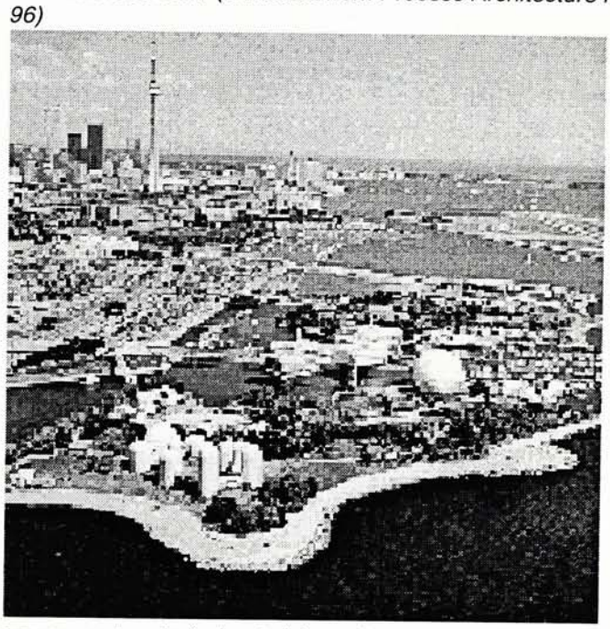


sun bath terrace; (extracted from *Italian Aquascape*)

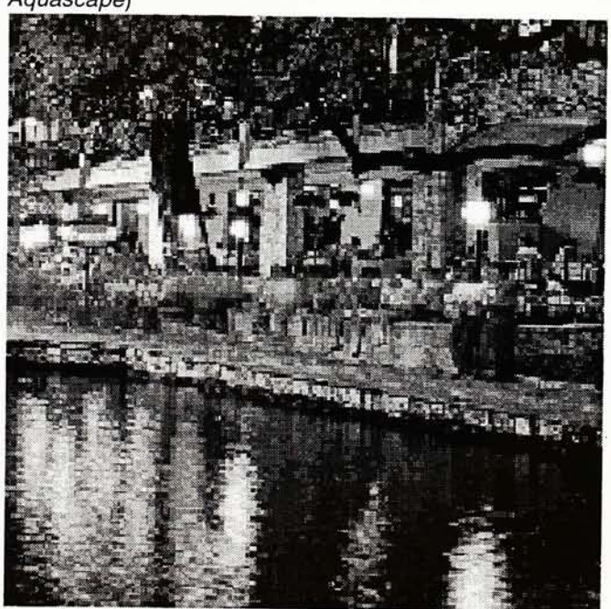
commercial & retail (extracted from *Process Architecture no. 96)*



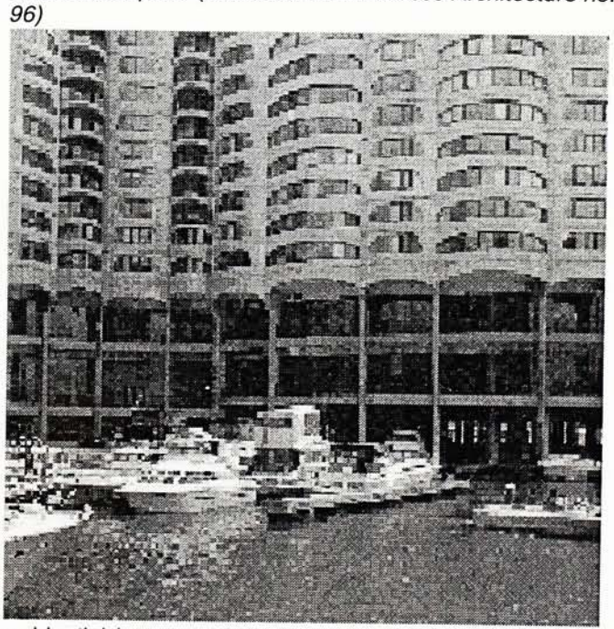
promenade and water front arcade, (extracted from *Italian Aquascape*)



amusement park (extracted from *Process Architecture no. 96)*



water front cafe and restaurants (extracted from *Water and Architecture*)

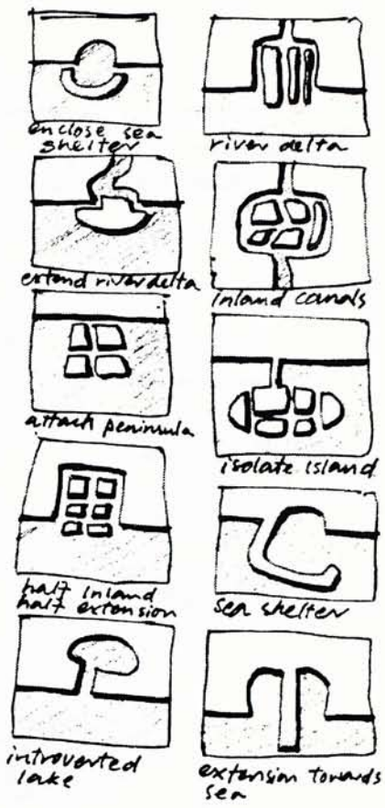


residential (extracted from *Process Architecture no. 96)*

12.3 water front and architecture design typology studies

a summary of water body types, and architecture - water body integration types has been done for a base for further design. Therefore the matrix for such water architecture designs could be used as basic design elements.

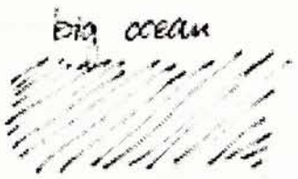
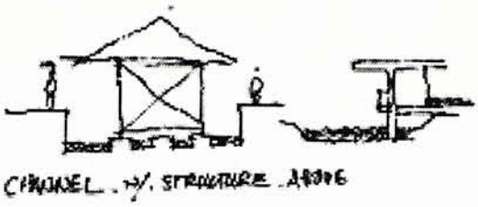
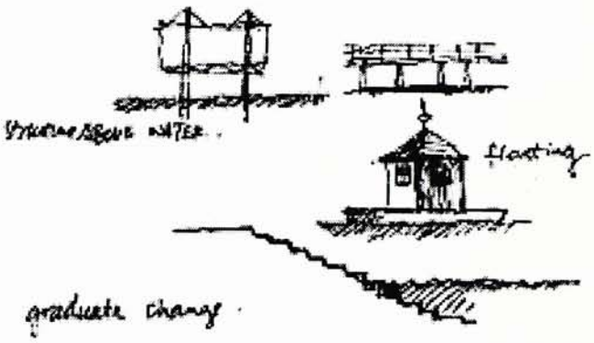
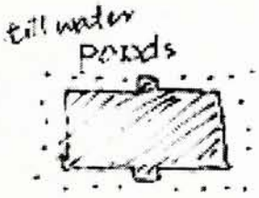
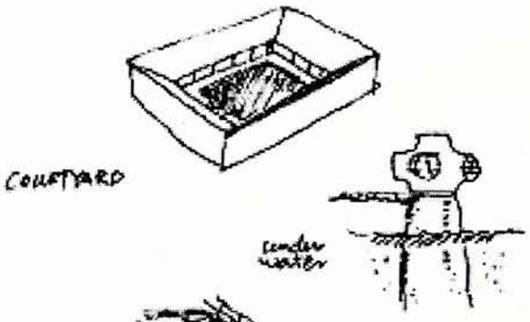
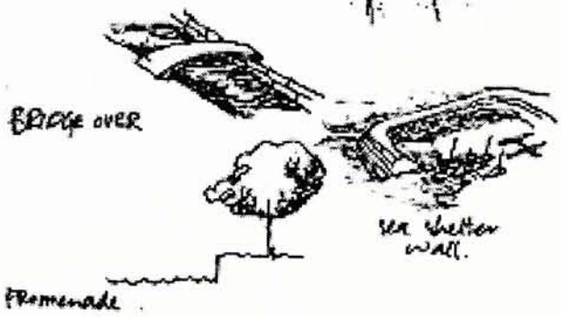
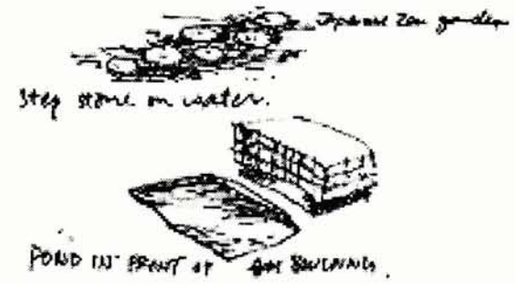
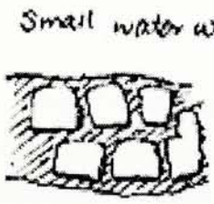
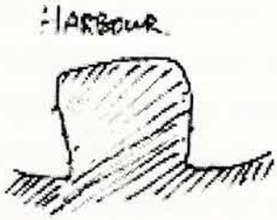
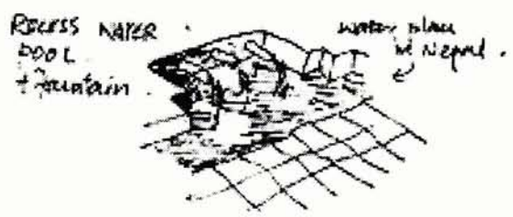
awareness should be also paid at the different moods, different time, different seasons and even different wheather associated with the water bodies to generate different environments.



water front structure typology study

my understanding to the subject

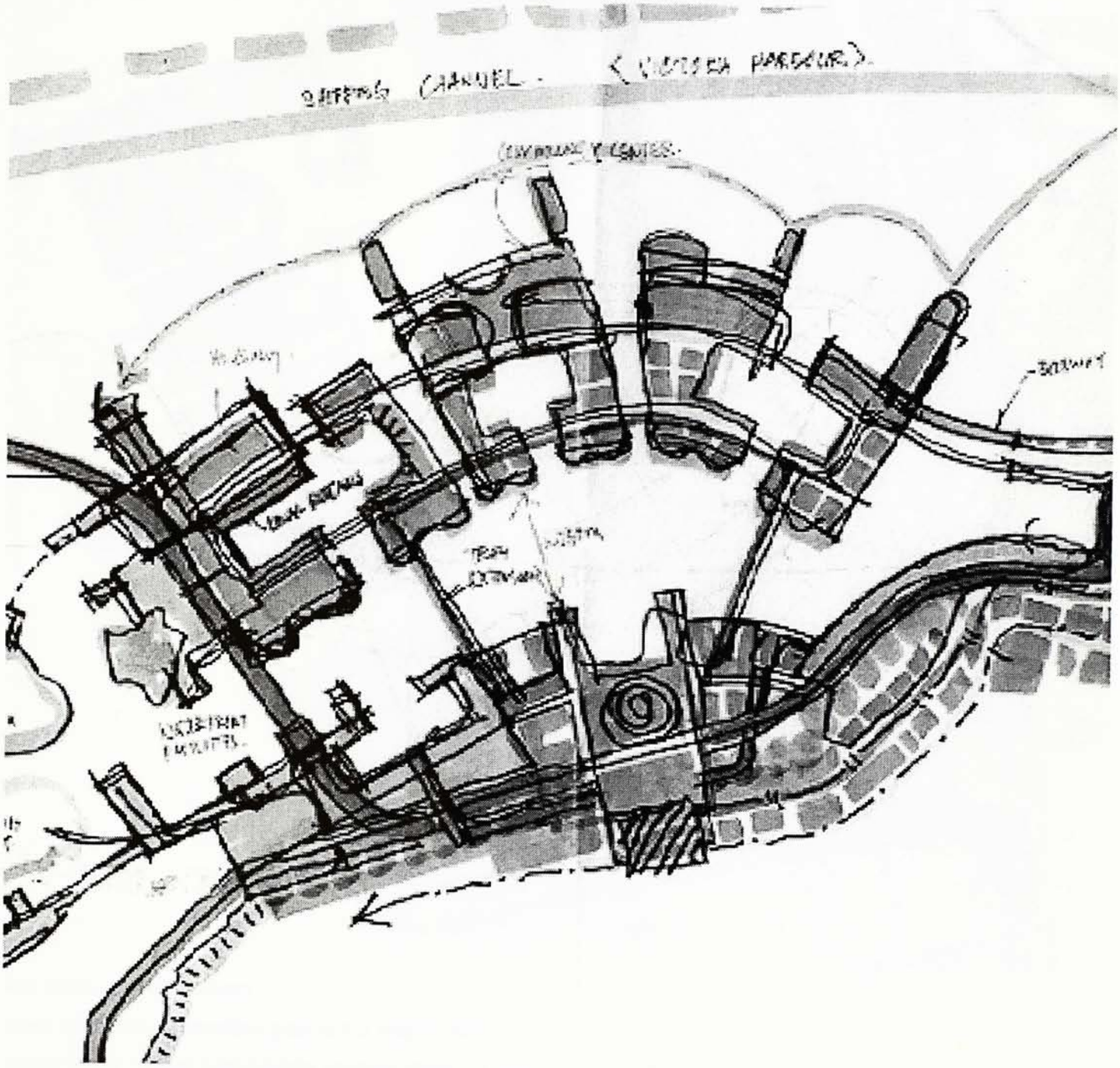
Water bodies is a dynamic element. It can be still, can flow, and move, can be shaped. It relates to human life and activties. Where ever human beings exists, there would be water bodies. Water also provides psychological comforts, provokes varies emotional feelings such as dynamic, cheerful, playful, relax, cool, calm, romantic, groovy, moody, sacred, etc.. The key to shaping the "right" waterbody is to look at the elements around water. They are lights, reflection, sound, humidity, day and night changes, seasonal changes, velocity, landscaping and architecture. Among the above, landscape and architecture becomes major factors in determining the character of a water body. They also gives the meaning and brings appropriate kind of activity be close to the water place. The purpose of making a summary of varies proto-type water- architecture structure, and water bodies is to simplify the problem by having a list of types of water place could be fould around the world which act as a boundary as well as pool of design elements.

Moods / atmosphere	type & form of water body	type of integration of water space & architecture
sacred		
clam		
romantic		
relax		
groovy		
cool		
moody		
cheerful		
playful		
dynamic & lively		

list of varies atmosphere could be created out of water and architecture

13.0 the design process

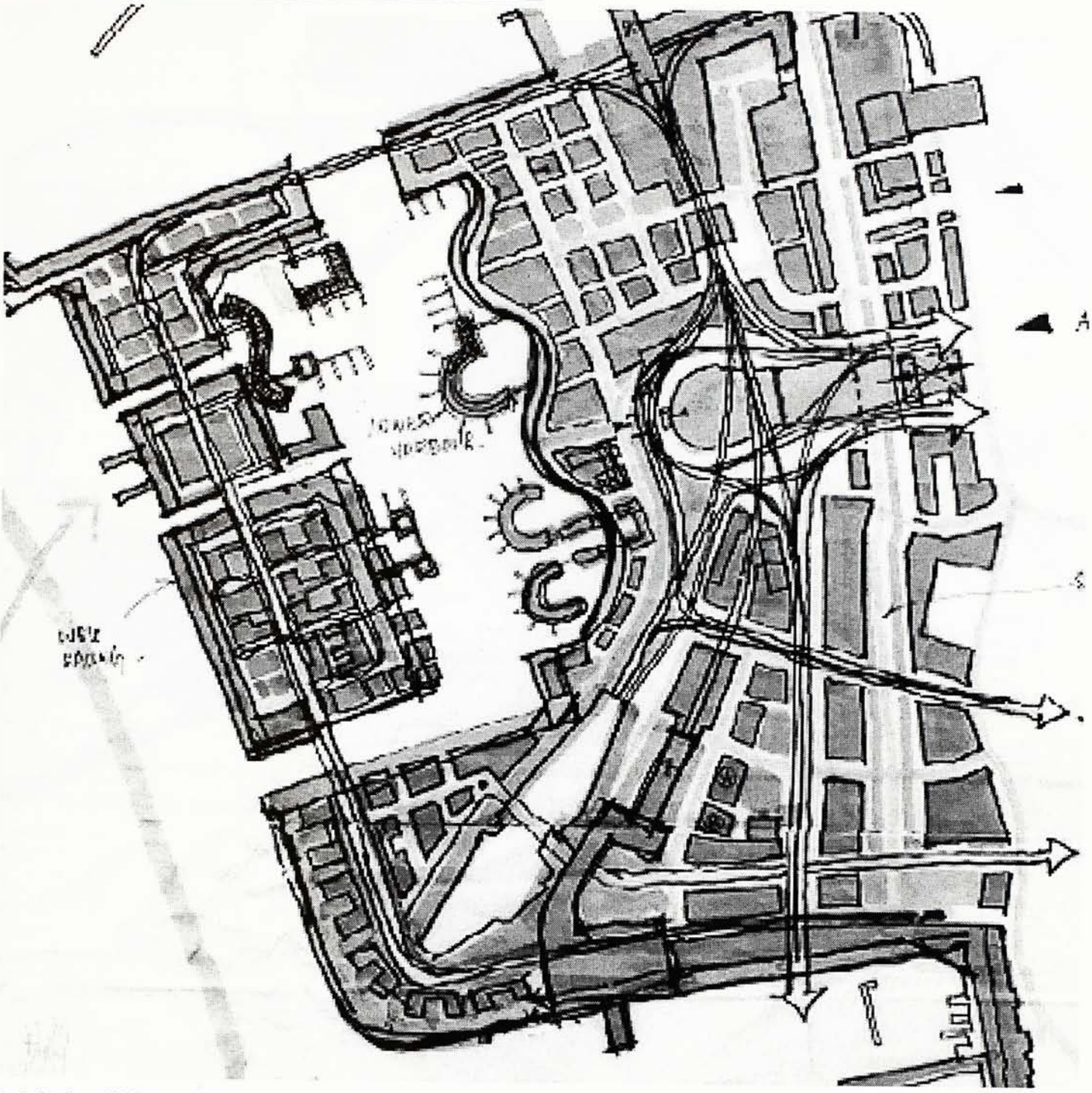
13.1 test design at Western District of Hong Kong island



test design at Western District of Hong Kong island

Western district at Hong Kong island is a planned developemt area in Metroplan. Government landfill proposal has been made along the water front of Kennedy Town to green island. Such reclamation was mainly planning for accomodate the express route no. 5 to Lantau and Aberdeen. For this alternate proposal, a residential complex was planned out at the harbour with connection of tramway extended from Kennedy town.

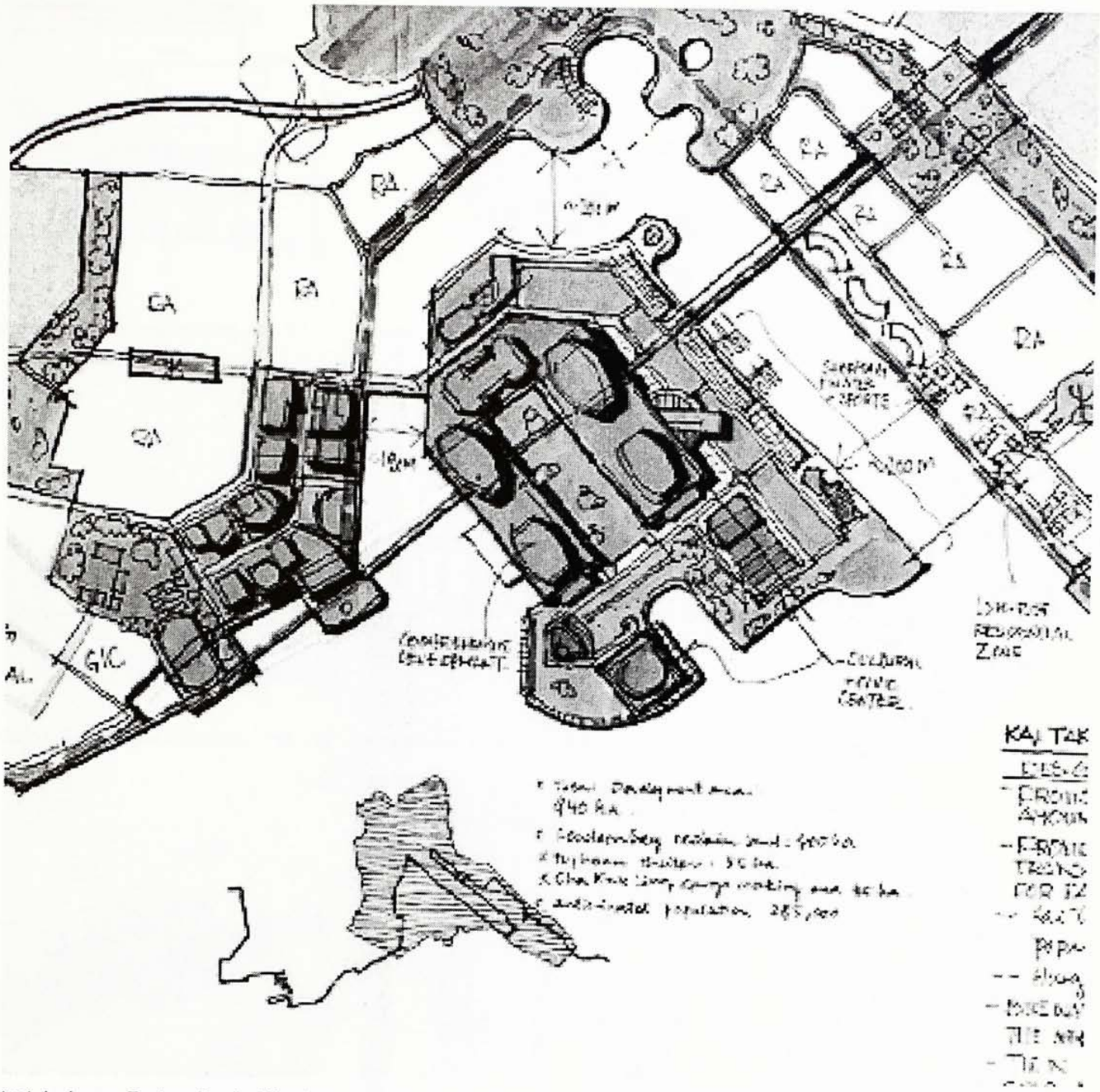
13.2 test design of West Kowloon



test design of West Kowloon

West Kowloon reclamation plan is the major project under going. It has sophisticate landuse planning and road network system being fixed. However, most of the water front area was taken up by highways and cargo loading area. In order to test on the potential of the area, this test design was done aiming at creating more water space and more recreational waterfront but keeing the planned road network and original proposed land use proportion. Other than this connection to the existing urban fabric at Mongkok and Yau Ma Tei became another major consideration

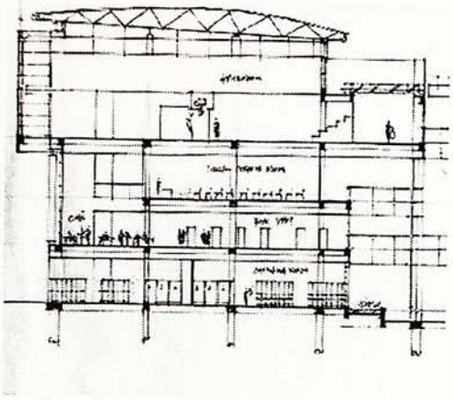
13.3 test design on Kai Tak airport area



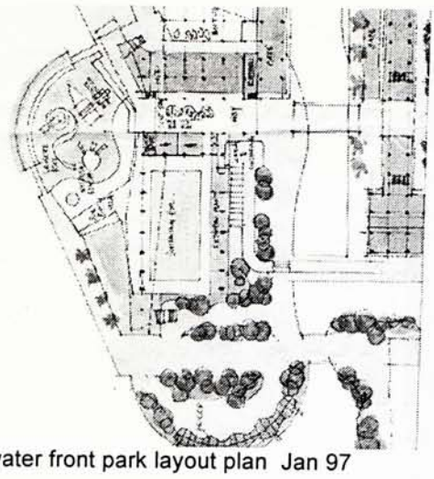
test design on Eastern Central Kowloon, Kai Tak airport area

Kai Tak area is another major development area after the airport being moved. The area would be fill up with resiential and commercial buildings in order to soften the demand of properties recently. A large urban park is also incorporate in the center of the landfill for serving the future residents. The test design to this area is to see whether any propsal to create more water space could benefit the area more.

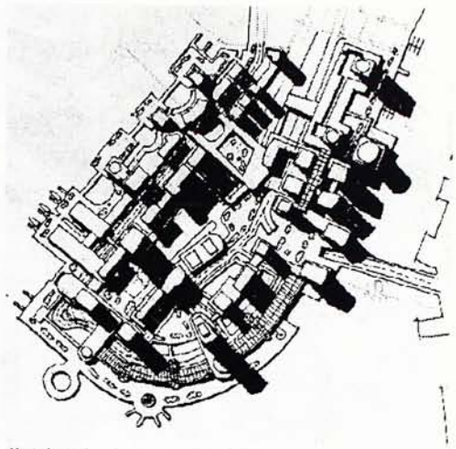
13.4 design evolution



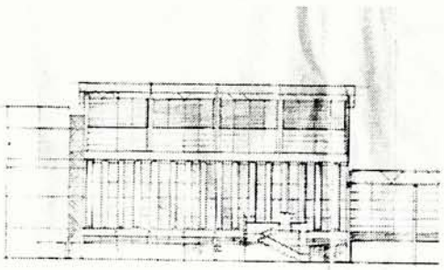
section of recreational building Jan.,97



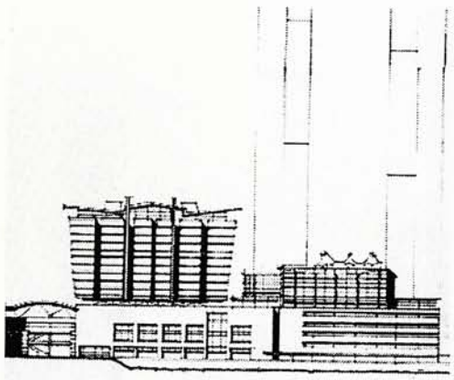
water front park layout plan Jan 97



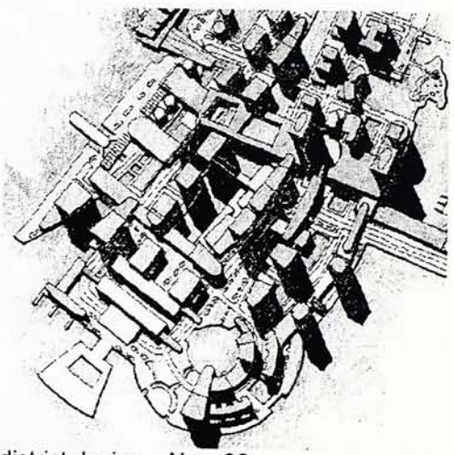
district design Nov., 96



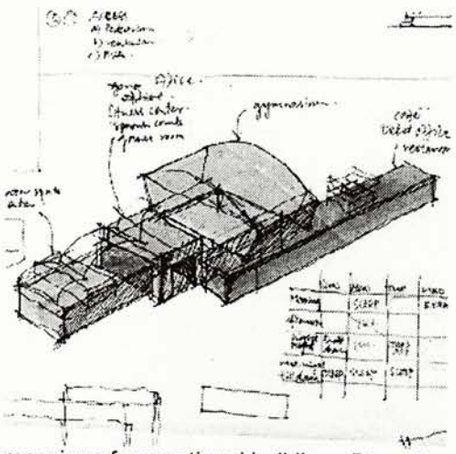
elevation of recreational building Feb., 97



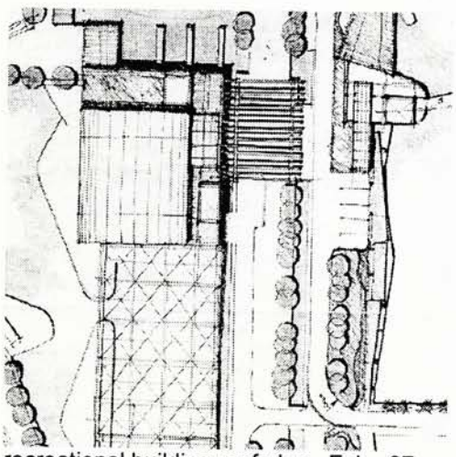
elevation of residential complex Dec., 96



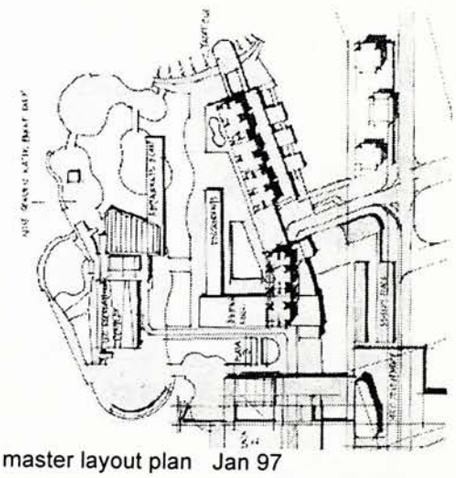
district design Nov.,96



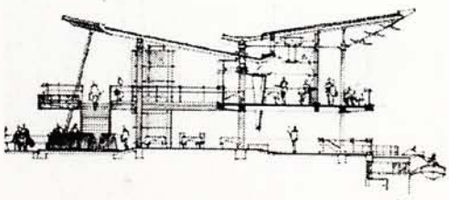
massing of recreational building Dec.,96



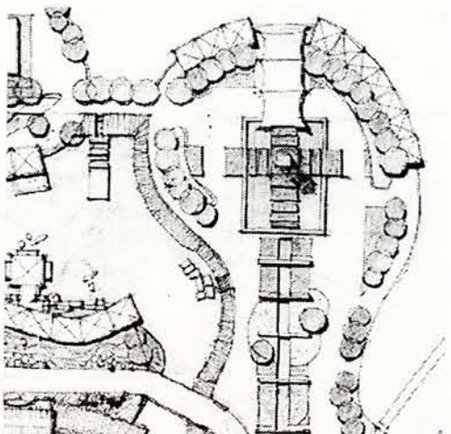
recreational building roof plan Feb., 97



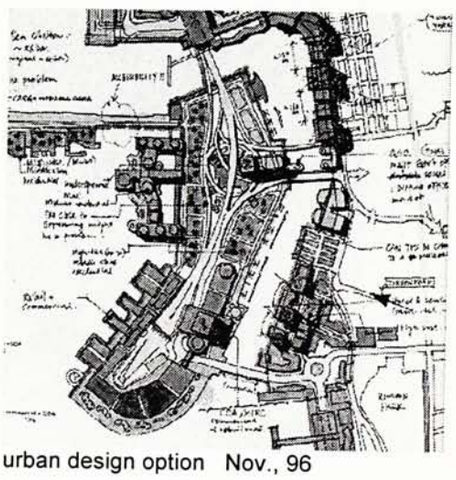
master layout plan Jan 97



cross section of cafe Feb., 97



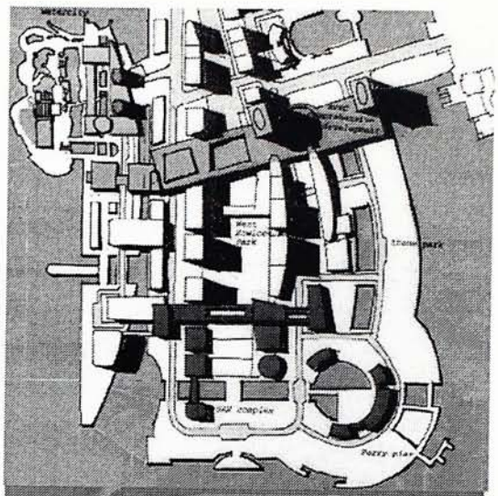
layout plan of water front park Feb., 97



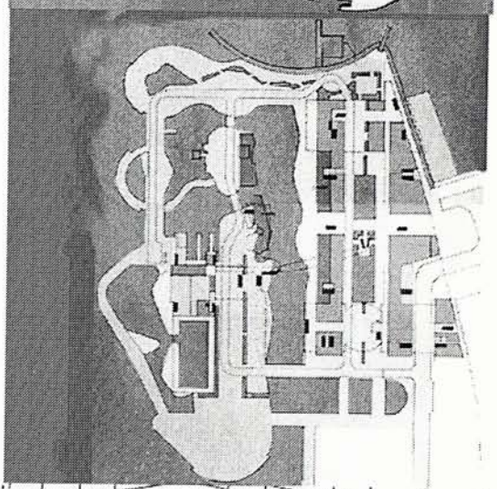
urban design option Nov., 96

14.0 the product

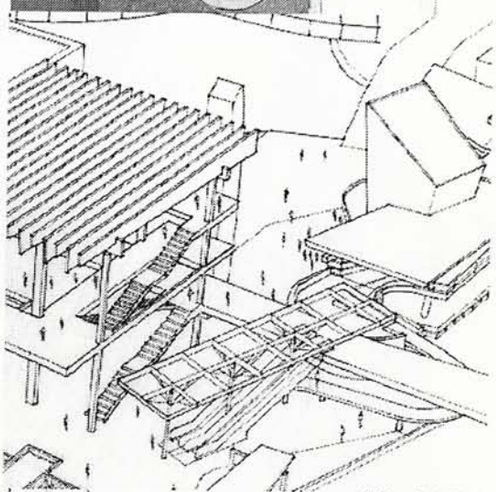
XL
urban
design



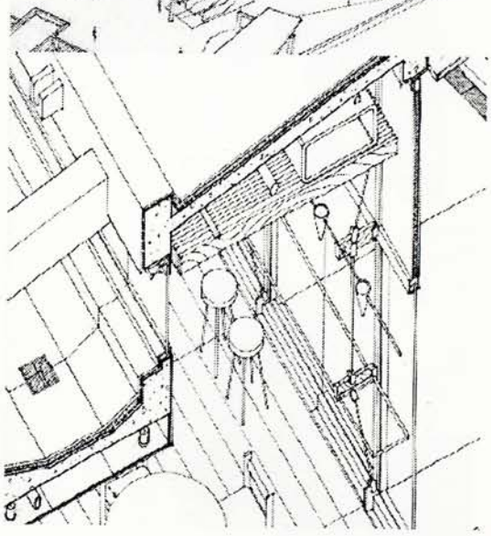
L
complex
design



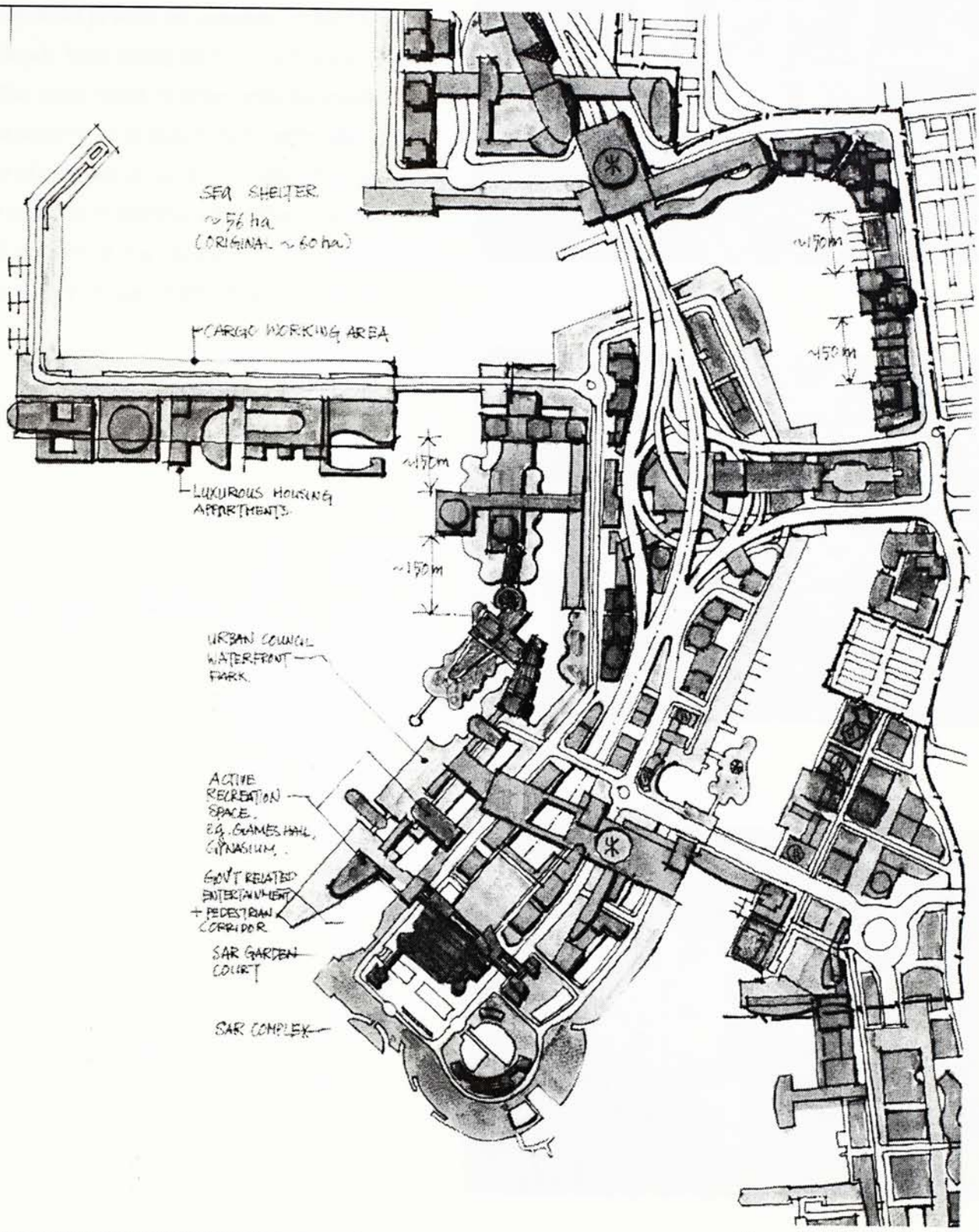
M
building
design



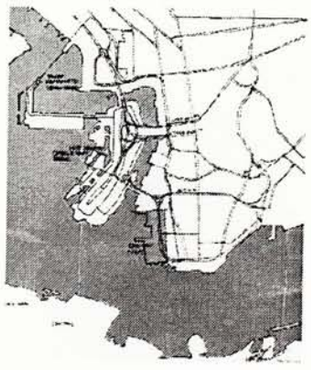
S
detail
design



14.1 an alternative proposal for the landfill at West Kowloon

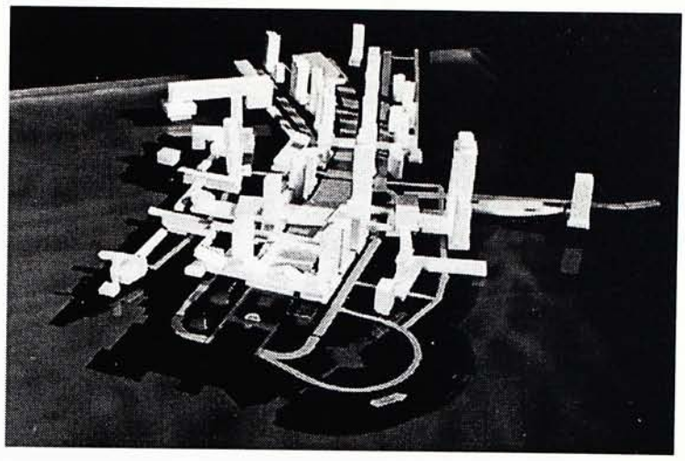


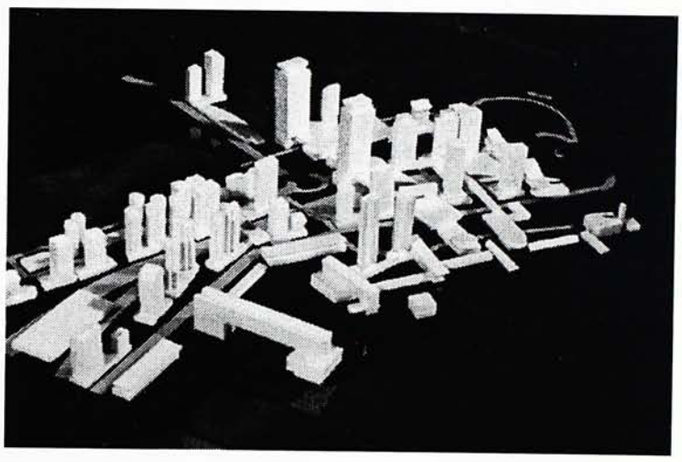
master layout plan for urban design proposal

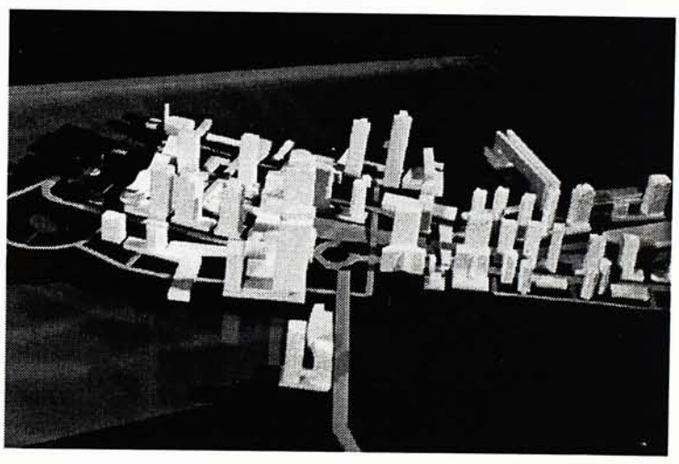


location plan

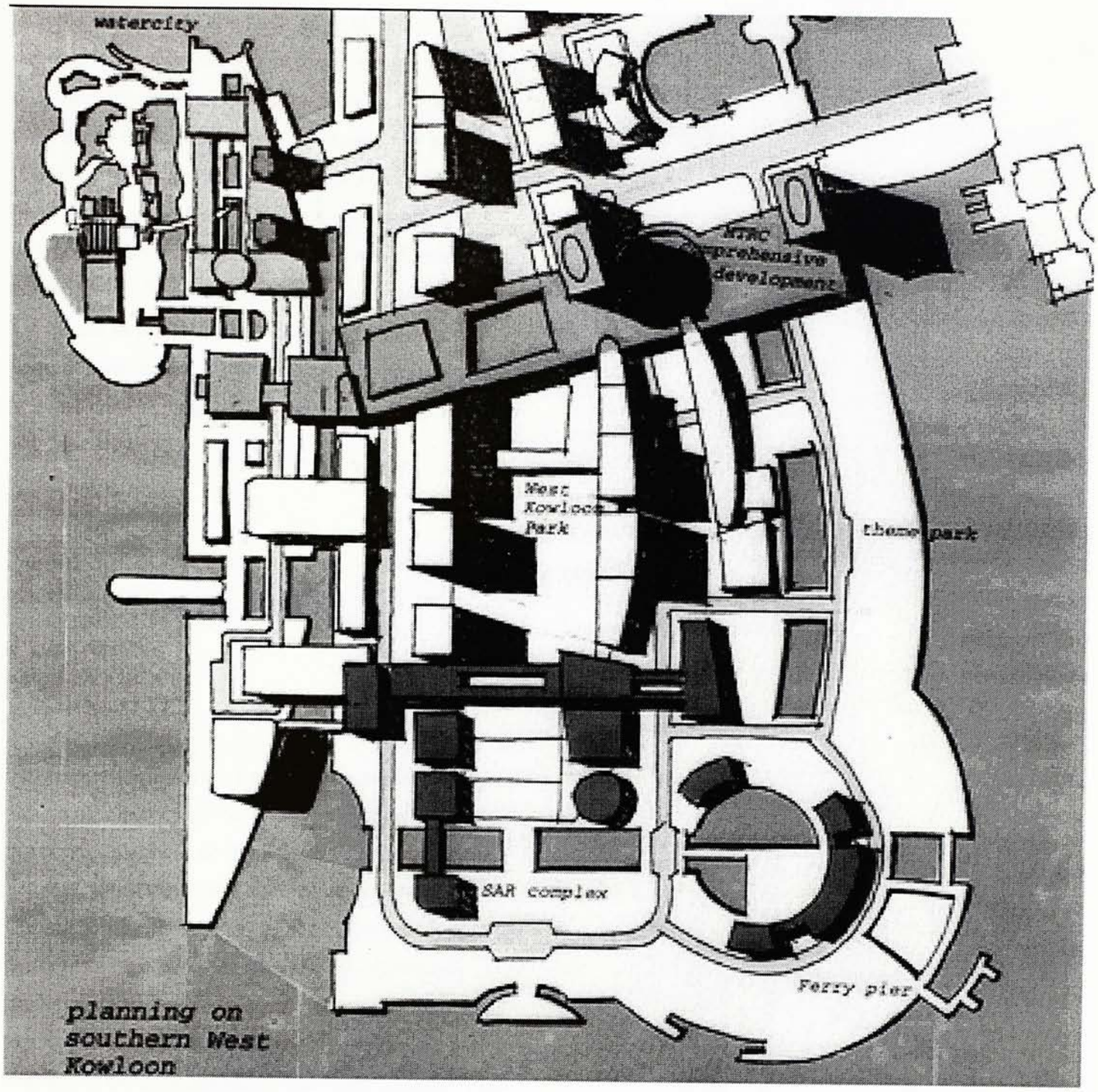
Using the West harbor crossing road network as the back bone, land filling glow out of it and forming a separate island. The design intention is to incorporate as much water front to area as possible. It also prevent the road network from taking up too much water front space. On the other hand, to preserved the existing water front a water way at about 100m wide was left. large portion of the new water front is planning to be recreational use and residential use, other than this, the monumental location at the Southern tip of the "island" is going to be the SAR government complex.







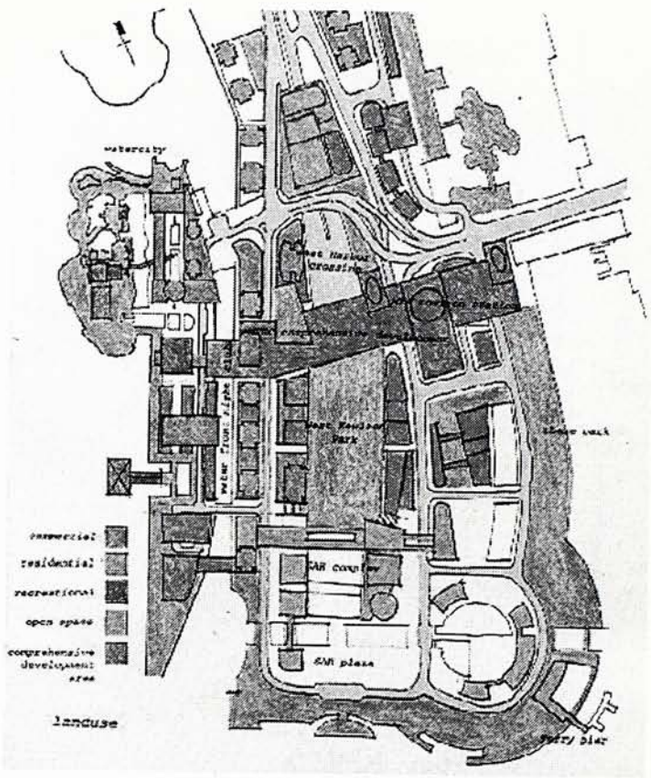
14.2 a district planning at the Southern part of West Kowloon



a district planning at 1:2500 scale has been done for further study of the Southern tip of the area. Given the context is the same, more emphasis was put on pedestrian and vehicular access, landuse pattern and building massing. Entrance for the Harbour crossing was covered under the central SAR park, where is proposed to be an open space for public at the administrative center of Hong Kong.

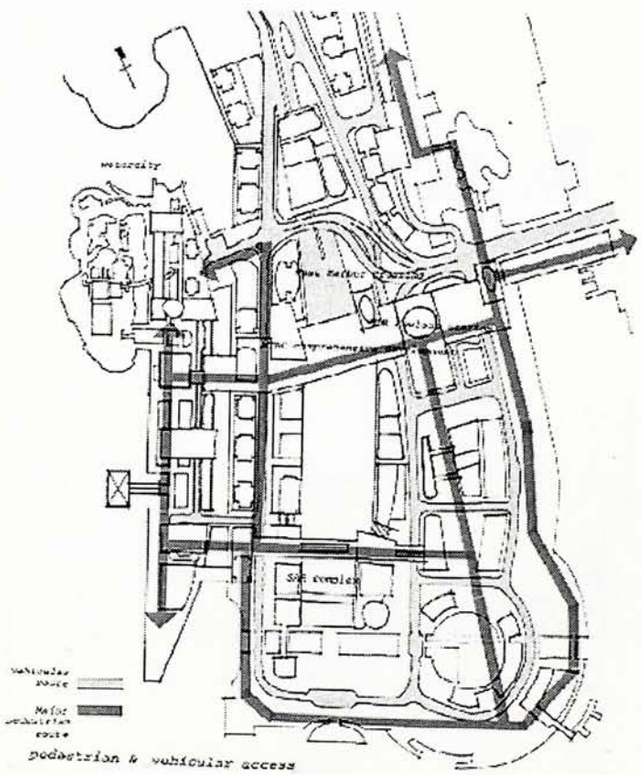
14.3 Landuse and access

The district was planned as a self-sustained district which included facilities such as a MTRC comprehensive development, open space, waterfront promenade, creational faciliies, market, commercial area and a SAR government complex. For such a landuse proportion, it shows a pilot district design with more exposure to water front but also keeping a balance proportion of different landuse. Commercial buildings which is supposed to be taller are packed at the center of the island, residential towers is the second layer and the water front buildings are mostly low rise creation and retail malls.



landuse diagram for the district

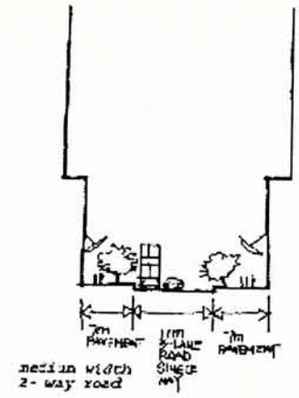
vehicular and pedstrian traffic connection planning was aiming at maximizing the fluidity of circulation among the district, keeping all the places to be directly accessible but out of the disturbance of vehicles. Connection from major public transportation nodes to water front has given the first priority. Continuity of pedestrian flow with relation to commercial and retail facility planning became another major issue, and the rest would be considerations like noise pollution from the West Harbor Crossing, different needs of traffic flow, efficiency, etc..



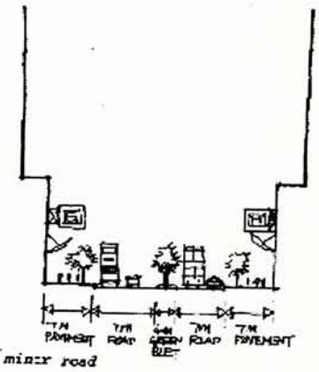
pedestrian and vehicular traffic access

14.4 streets sections studies

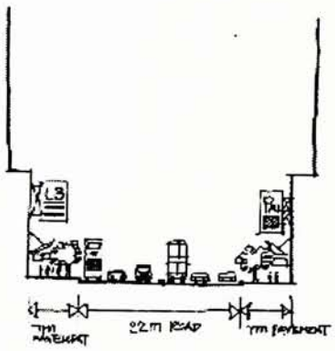
street sections were done for the basis of the urban design which roughly giving an idea of the width of vehicular roads. Other than the space provided for the vechicles, green belts and more spacious pavement were planned. Also projection of the signage boards was given a limit of 5 meters in order to keep adequate lighting to the street.



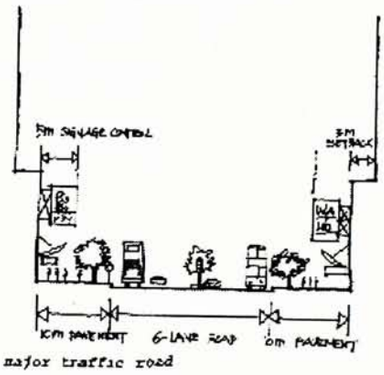
median width 2- way road



minor road



major shopping boulevard

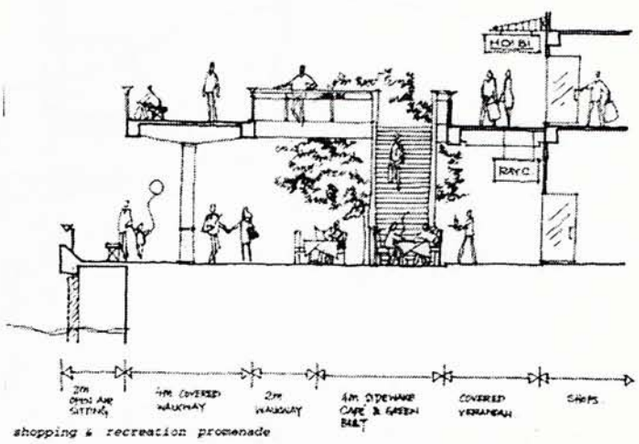


major traffic road

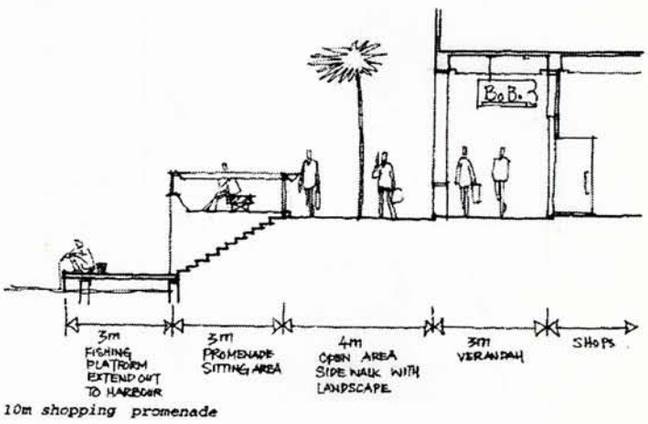
14.5 water front edge design

varies type of water front design were done for the urban planning exercise. They are base on different landuse, and different width. The key is to put the right activity and land use next to the water in order to make use of the water body and vitalize the place. For the shopping and recreational promenade, cafe, shopping mall, resting place and promenade walkway were incorporated in the section.

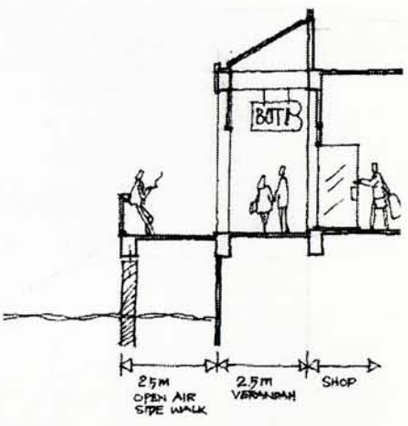
Fishing is another popular activity along water front



shopping & recreation promenade

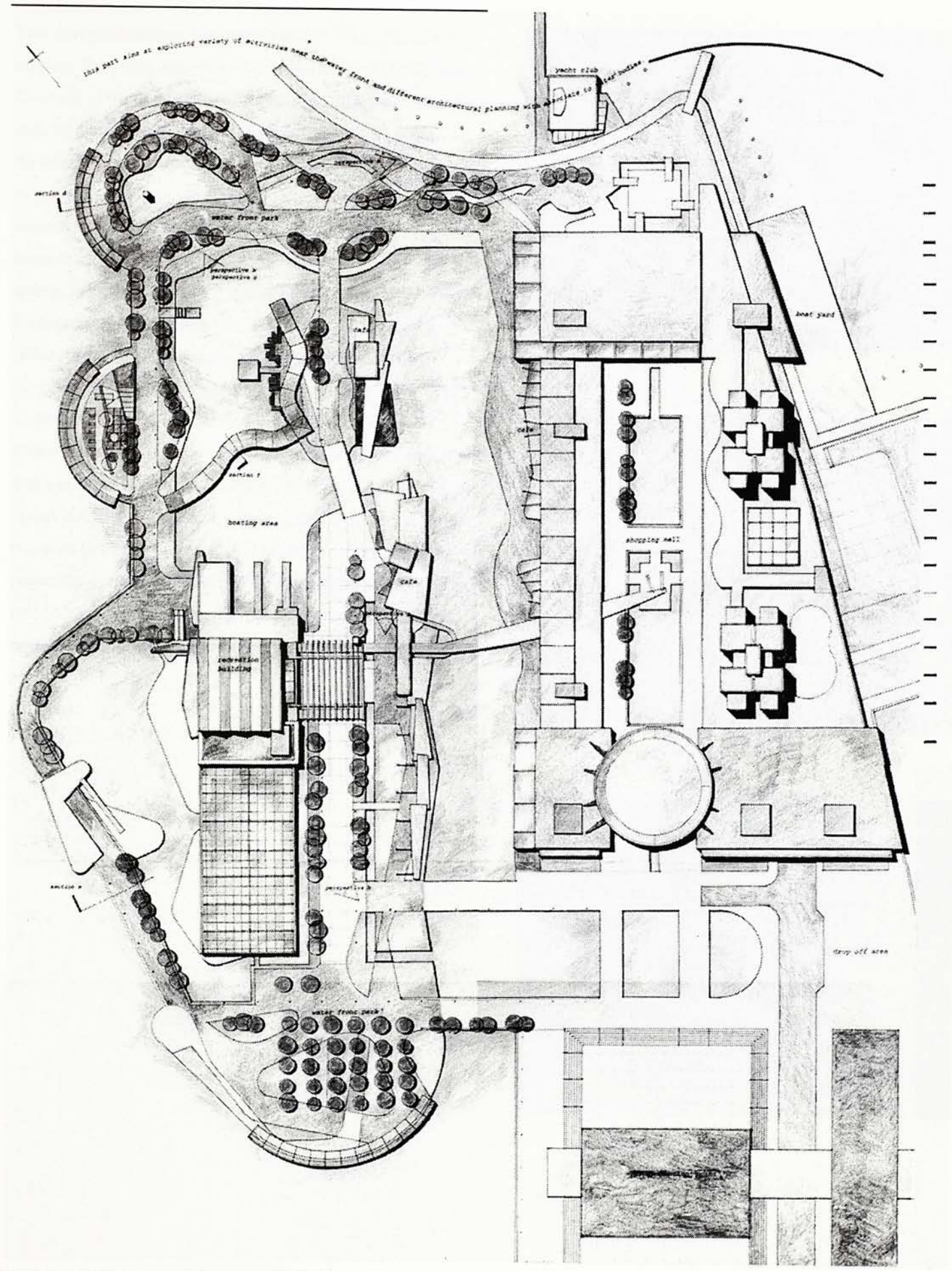


10m shopping promenade



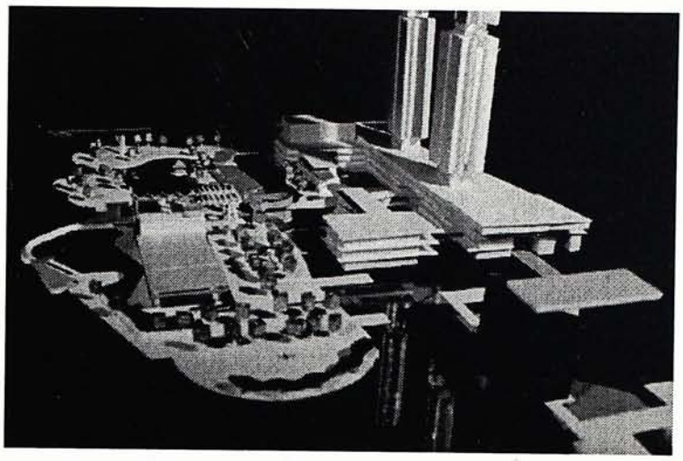
5m shopping promenade

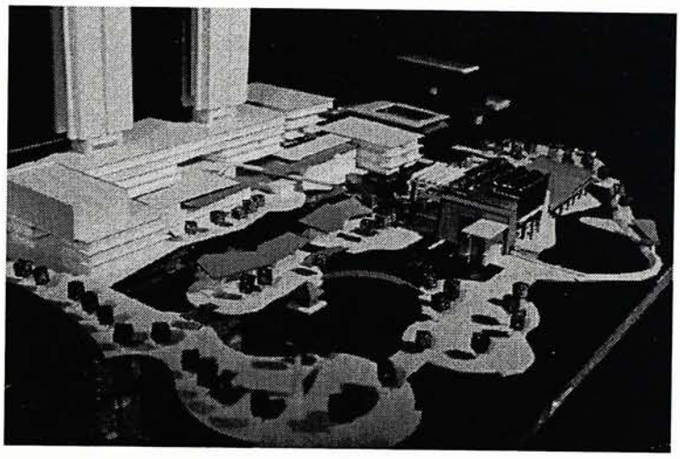
14.6 the water front comprehensive development

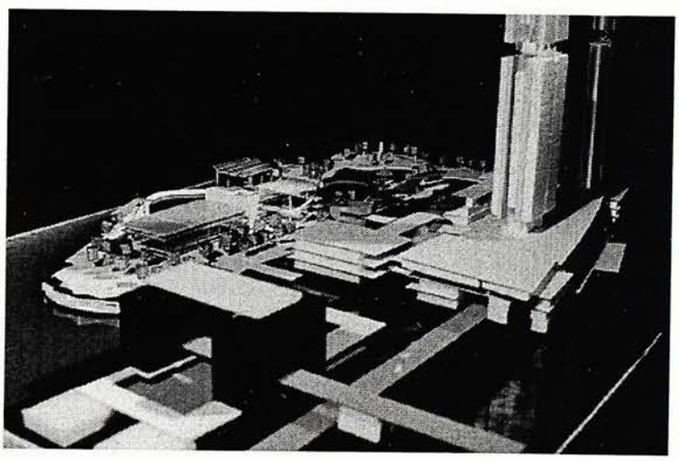


master plan of commercial mall, residential towers,
recreational building, and the water front park

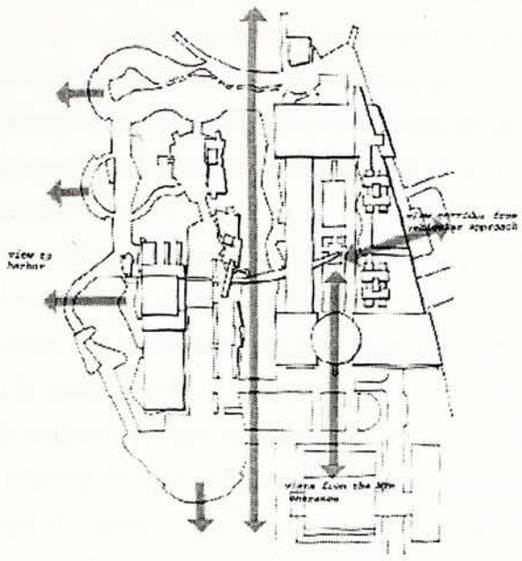
The comprehensive developement involve two client bodies: they are one private developer and the Urban Council. The developement of the residential complex with shopping mall carpark belongs to the private developer. It includes several kinds of different landuse to be place near to water front, such as residential towers, shopping malls, yacht club. The Urban council recreational development includes recreational and sports facilities, cafe and restaurants, swimming pools, fishing area, open space, etc.. The involvement of different nature of landuse and function is for the purpose of exploring the way to vitalize the water front district as well as fully utilize the water body.
Different landuse needs different kind of relationship with the water bodies. For example, boating facilities need direct contact with water, but residential flat might only have visual connection to the harbour. Through the planning of each function with consideration of its relation with water, access, activity sequence, etc., a schematic planning of the development was worked out.



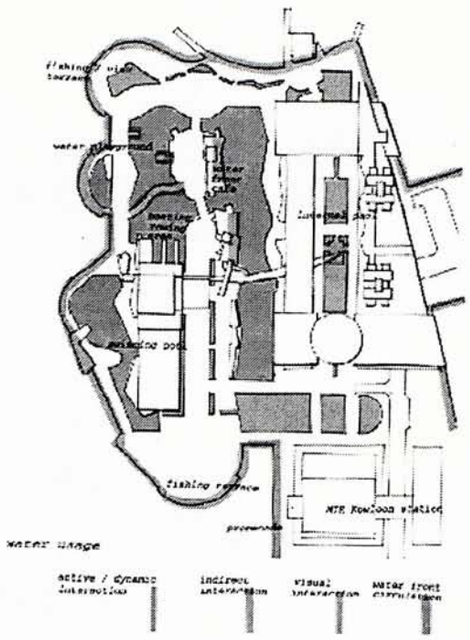




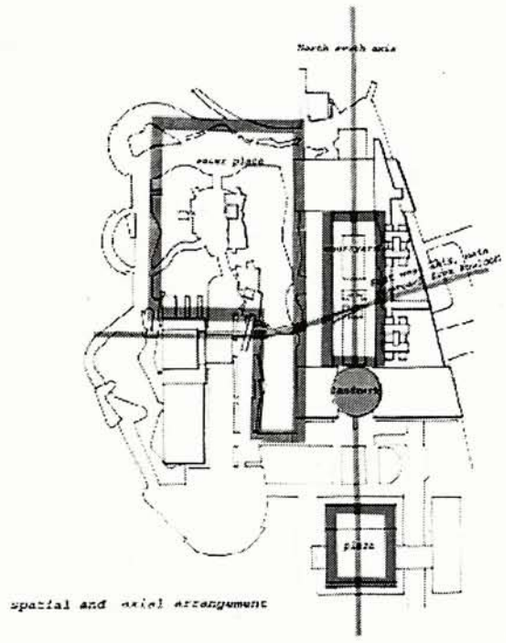
14.7 planning logic of the whole complex



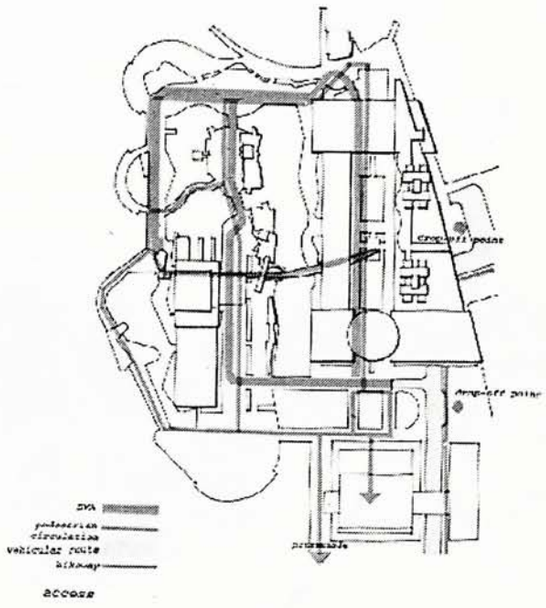
views



water usage



axial and spatial arrangement

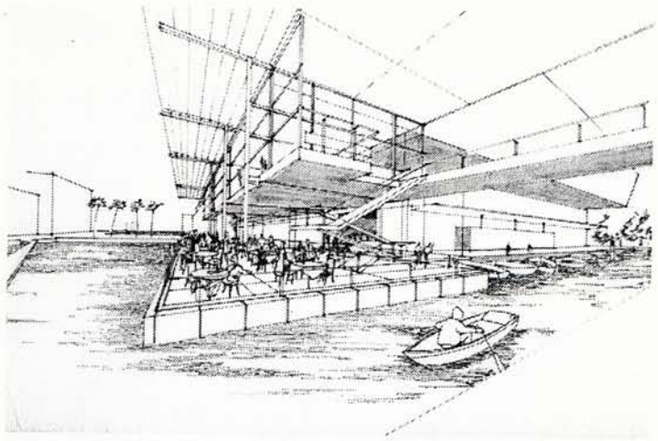


vehicular and pedestrian circulation

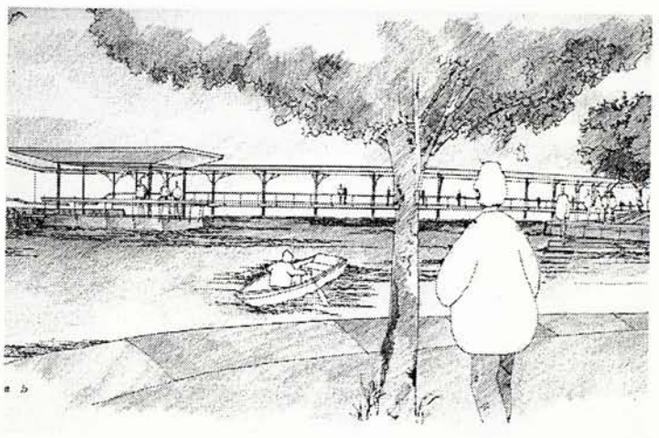
14.8 perspective studies of complex design

series perspective studies have been done to visualize the design of the water front park and the complex planning. These drawings are only impression drawings. They do not show exact design details. However they did help in giving a rough idea of what should be achieve.

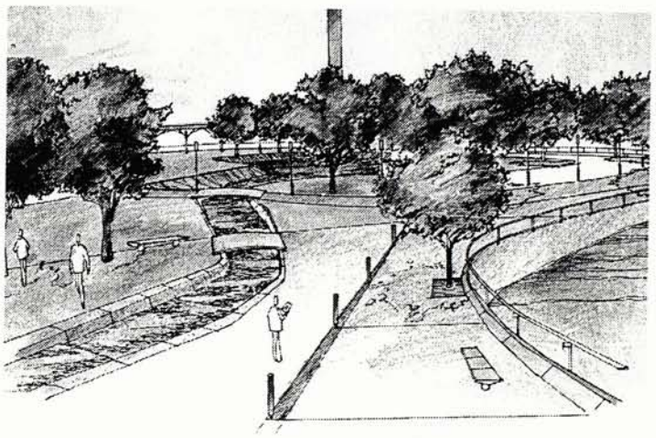
These images are mainly showing how the place and kind of activities would relate to water bodies. For example, for the water front cafe, people would sit next to water and have close contact with it. For the "river section", people can walk beside water way just like walking along natural stream. For an optional design of a green house structure, the river way would be act as a feature in between dense vegetation which could simulate a natural forest environment.



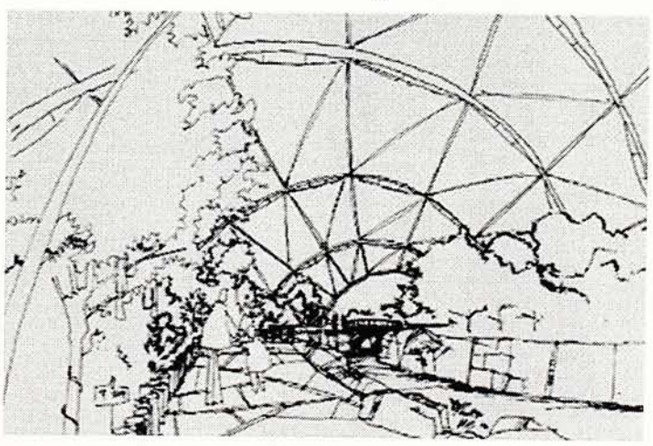
view to water front cafe



view to boating area



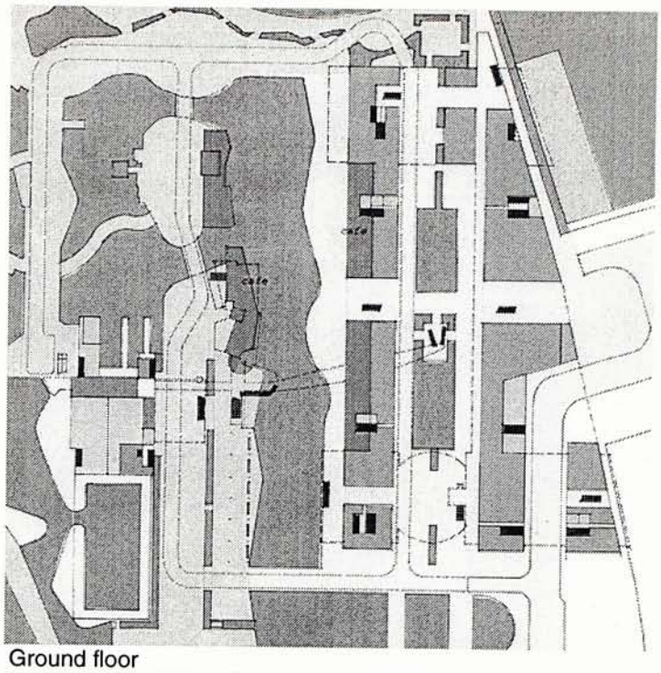
view to "river section" of water front park



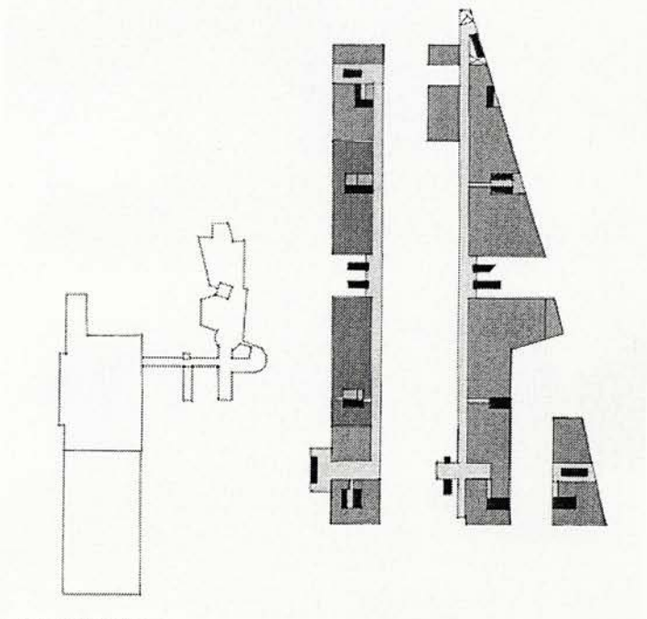
view to green house (optional)

14.9 complex zoning plan

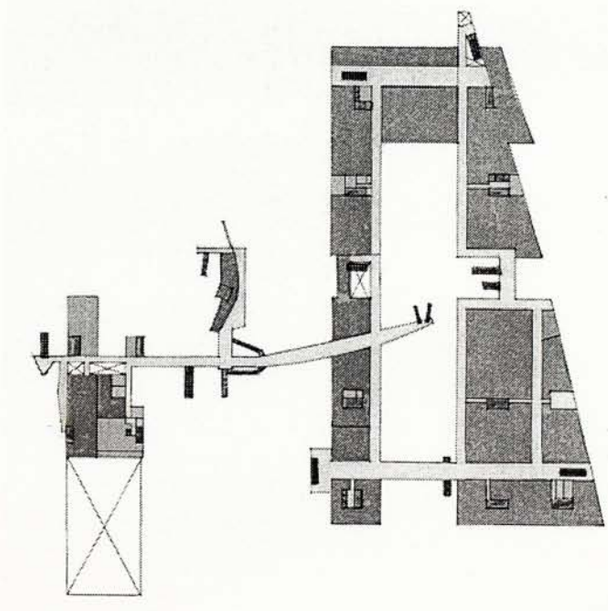
zoning plan for the complex have been done, mainly for the shoppin mall part and the recreational building. This is too should a rough planning of the comprehensive development area. Circulation, access and distribution of wate place are the issues being considered in such zoning exercise.



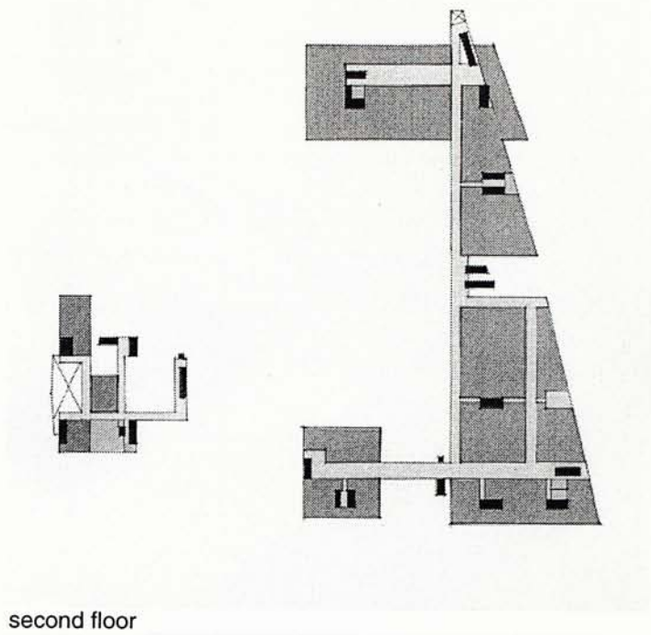
Ground floor



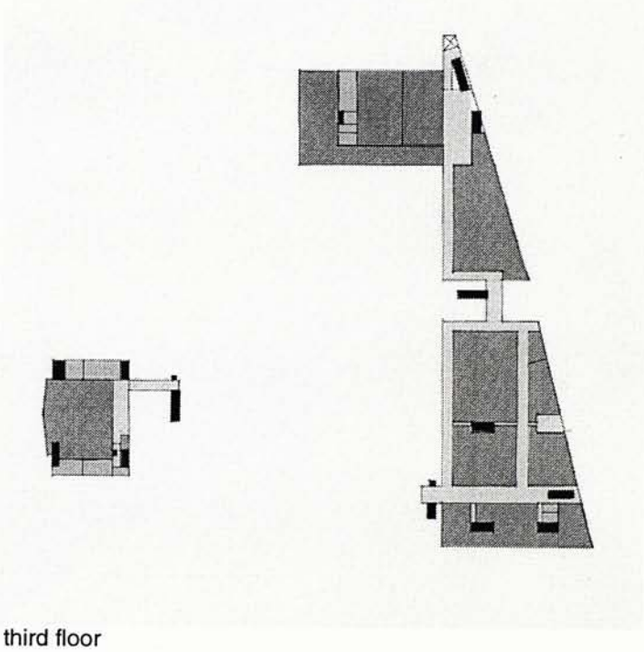
mezzanine floor



first floor

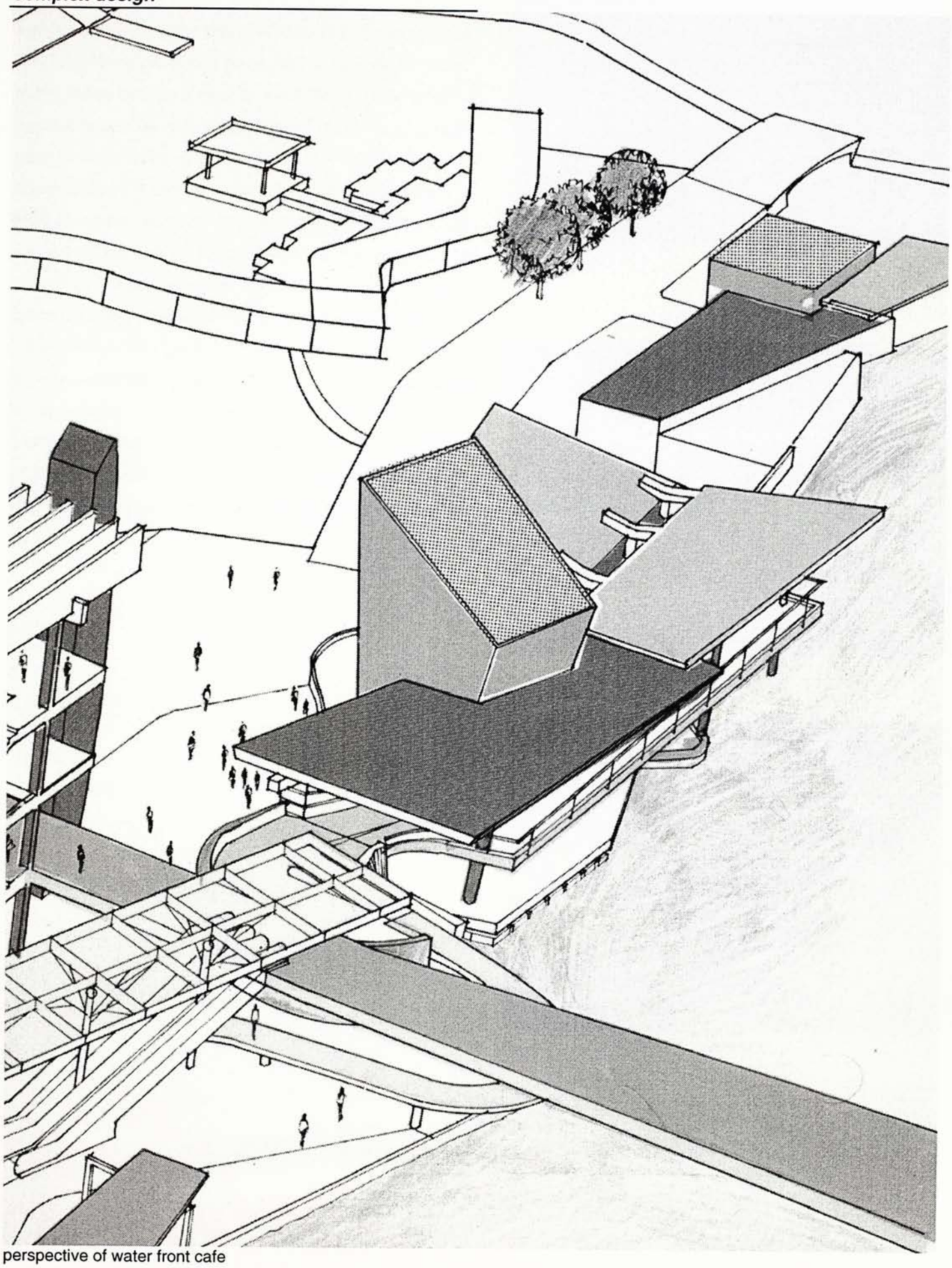


second floor



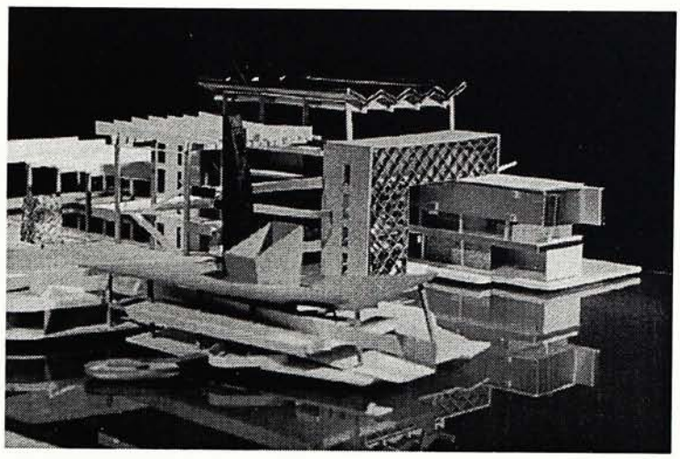
third floor

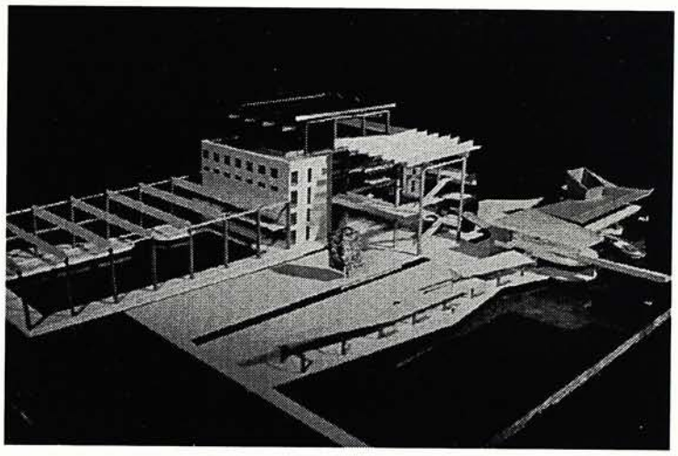
14.10 recreational building and water front cafe complex design

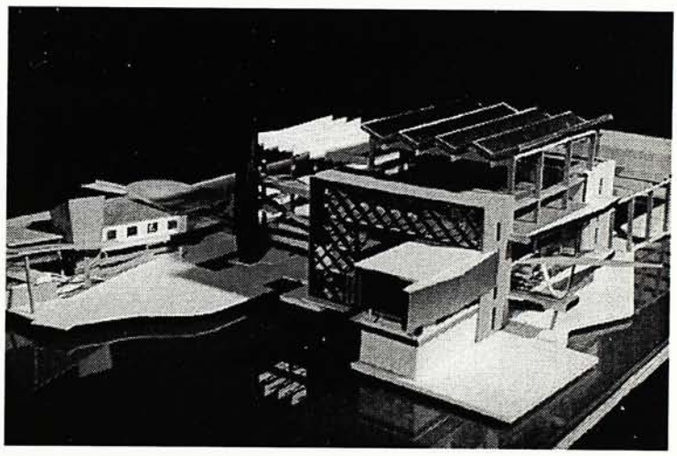


perspective of water front cafe

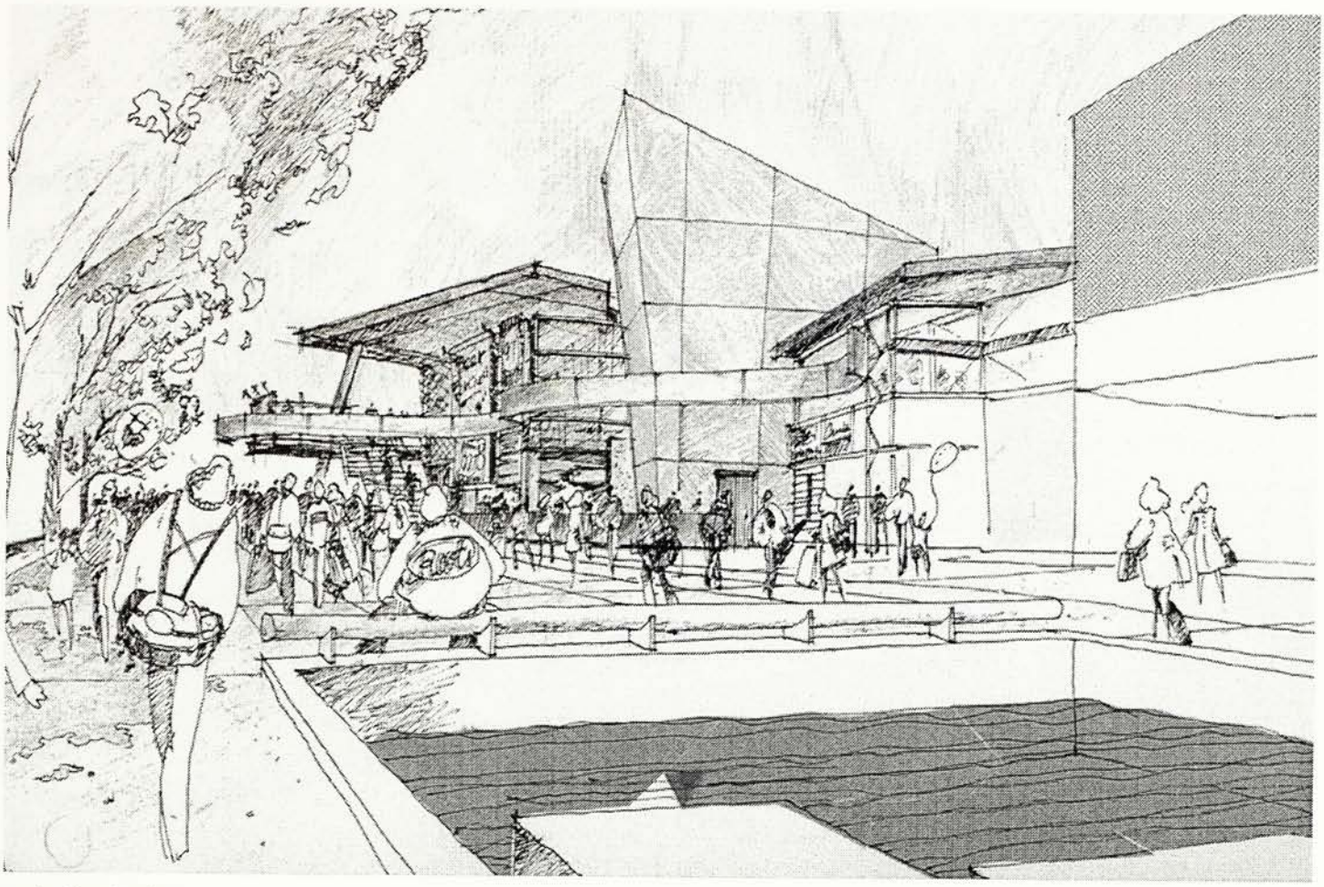
The recreational building and cafe complex involve functions like spots gymnasium, swimming pool fitness center, cafe, book shops, snack bars, etc.. These functions are selected because they are common place for Hong Kong people to go at their leisure time. Thus, to put these functions near to water front on the other hand is to put the recreational life of Hong Kong people near to water front. In this way we can have better environment for recreational purpose and also water front could be vitalized. Cafe is the first kind of landuse which that should go close to water, It is always be nice to look over water while people are eating. Therefore, more dynamic playing of "water architecture" could be found for the cafe design. For the other functions like fitness center and book shop, these functions might only need indirect connection with water. Otherwise, more water place design should be found in the landscape design and planning of park space, such as rapid, water fall, fountain, bridge over water ways, water playground, etc..





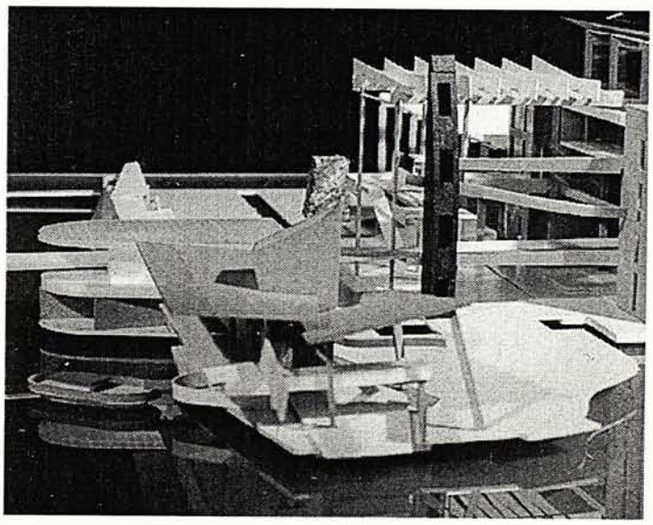


14.11 the water front cafe

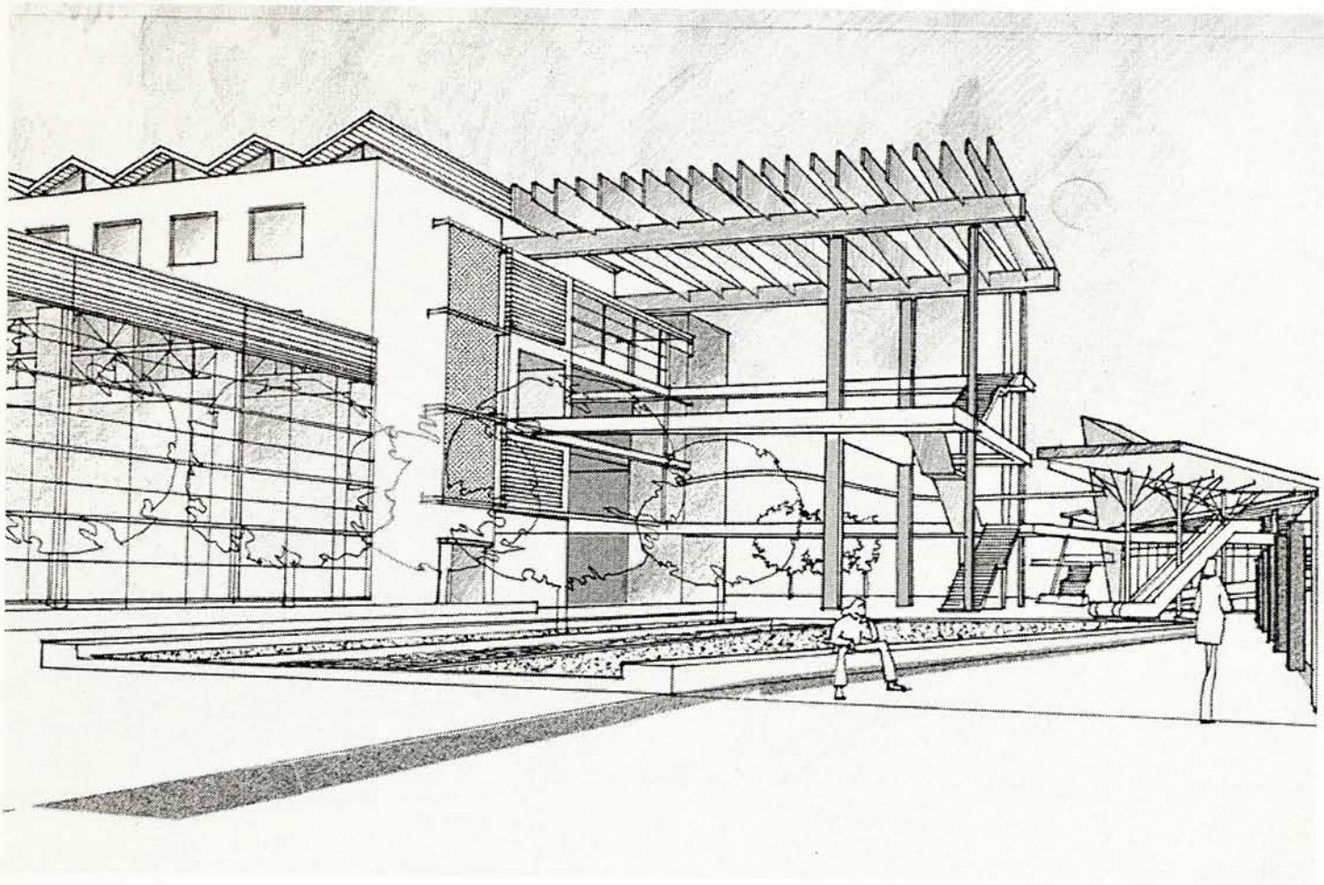


water front cafe

This is a rather interesting part of the project which has more potential to play with. The water front cafe building is situated on the bank of the central water way facing the shopping mall. The entrance side of the building is facing the grand walk way in front of the recreational building. Different types of "water-architecture" were being explore in the building, like there are floating bars on water, structure span over water, lower platform for the snack bar which sell stuff to boating people, etc..

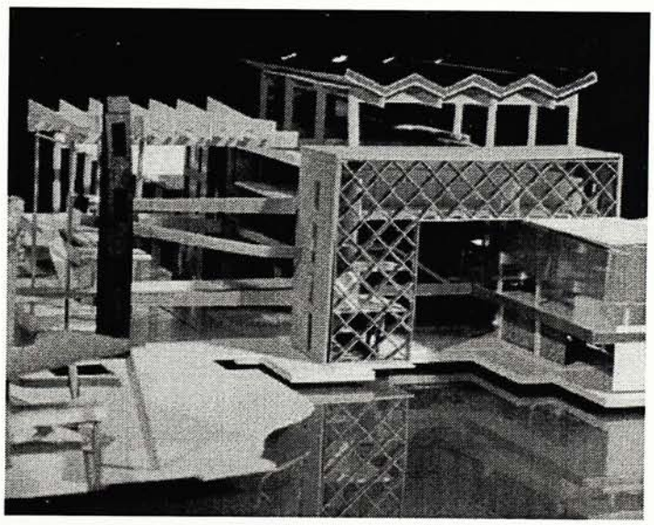


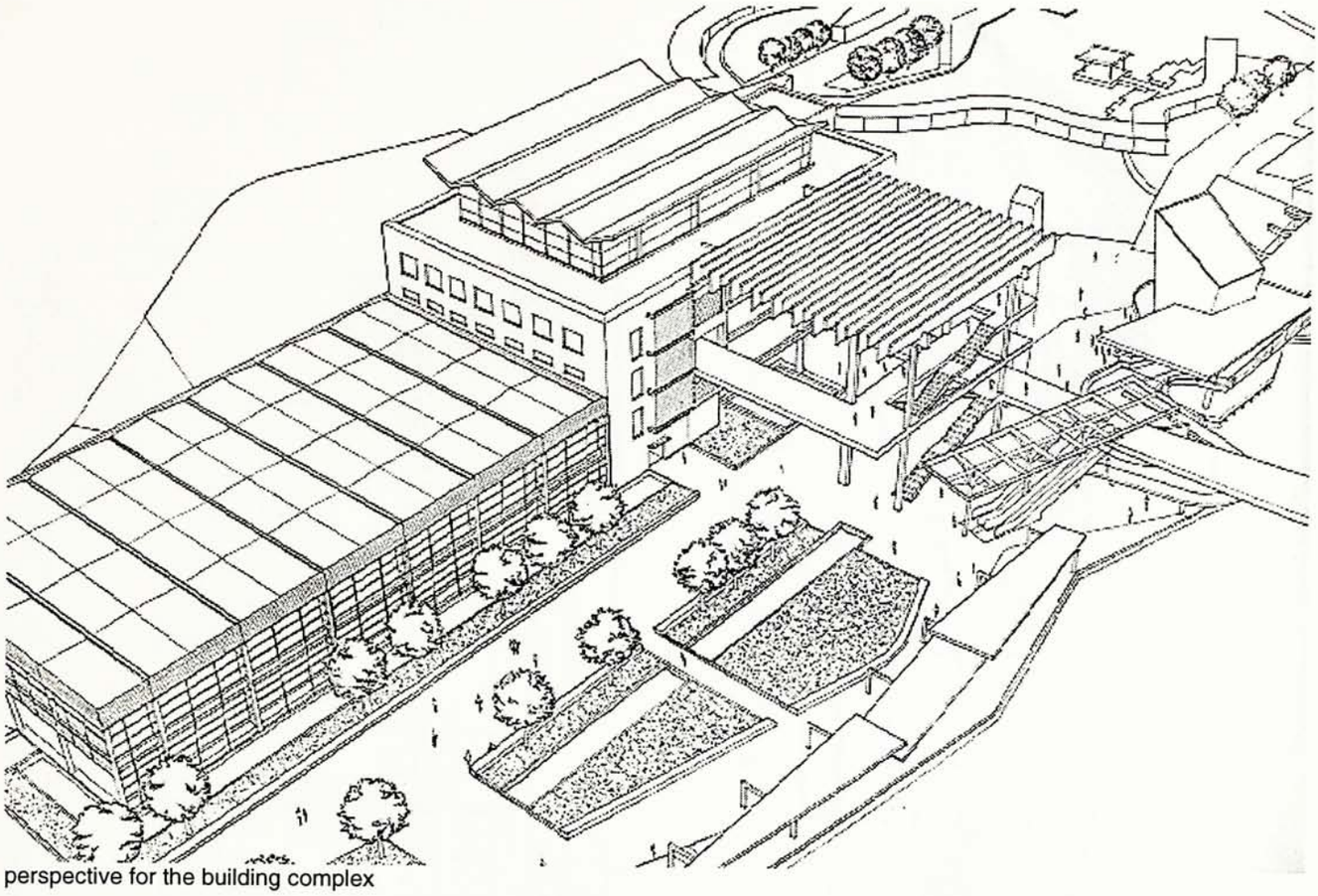
14.12 recreatonal building



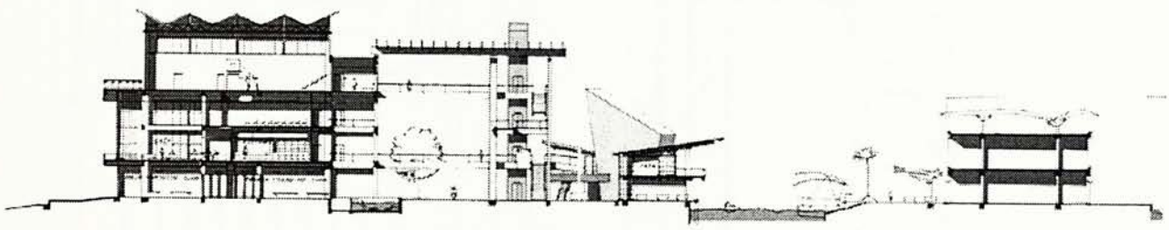
recreational building

the recreational building has the function of a swimming and leisure pool, a cafe and book shop, a fitness center, multi-purpose room, and a multi-purpose gymnasium. These functions are similar to general recreation facilities provided in common UC recreational building. However, the planning and design of the building was aiming at bringing those functions more closely related to water place. For example, an ecological pool is located on the ground floor of the atrium space at the entrance of swimming pool. This might cool down the temperature of the atrium, bring life and movement to there and attract people to stay around the place.

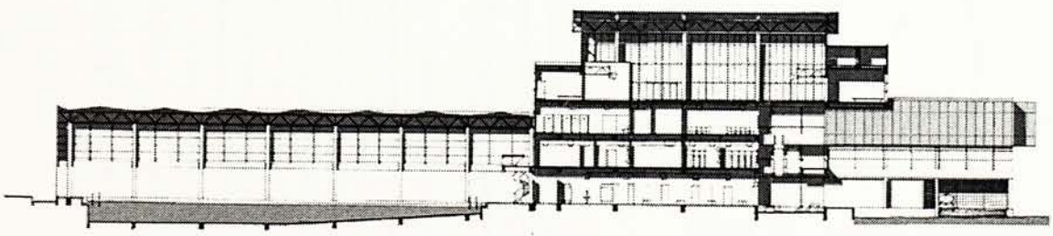




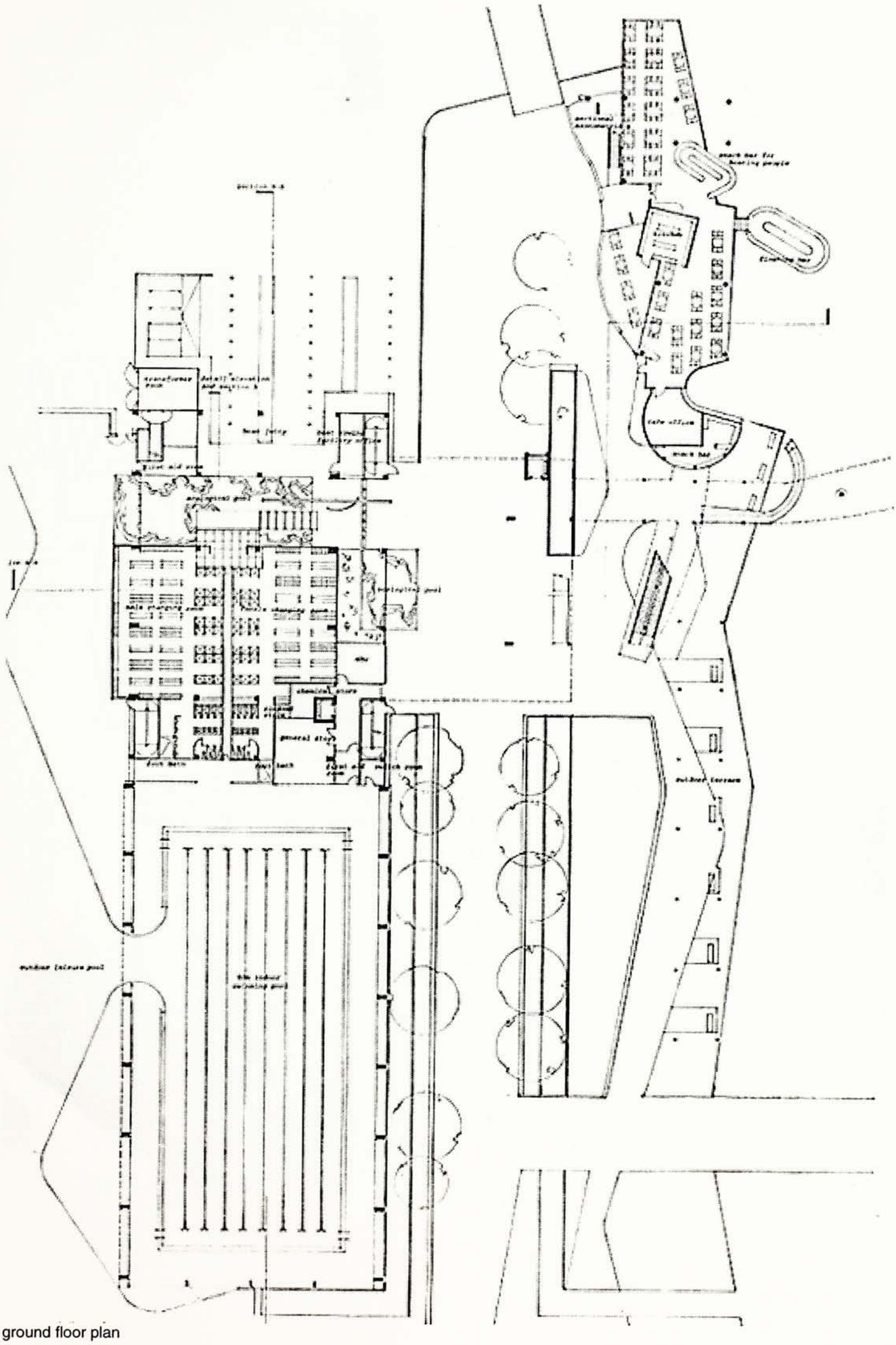
perspective for the building complex



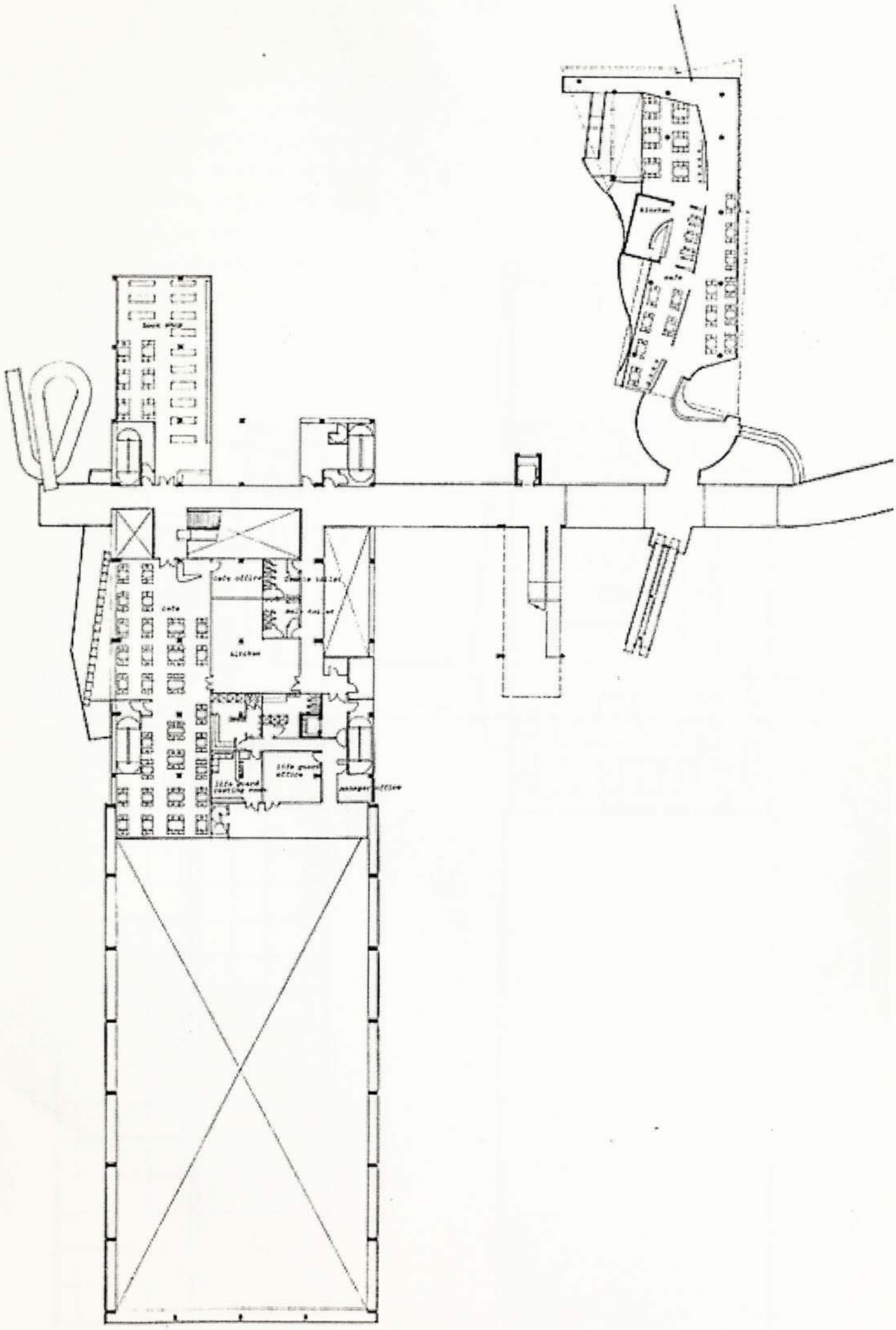
cross section



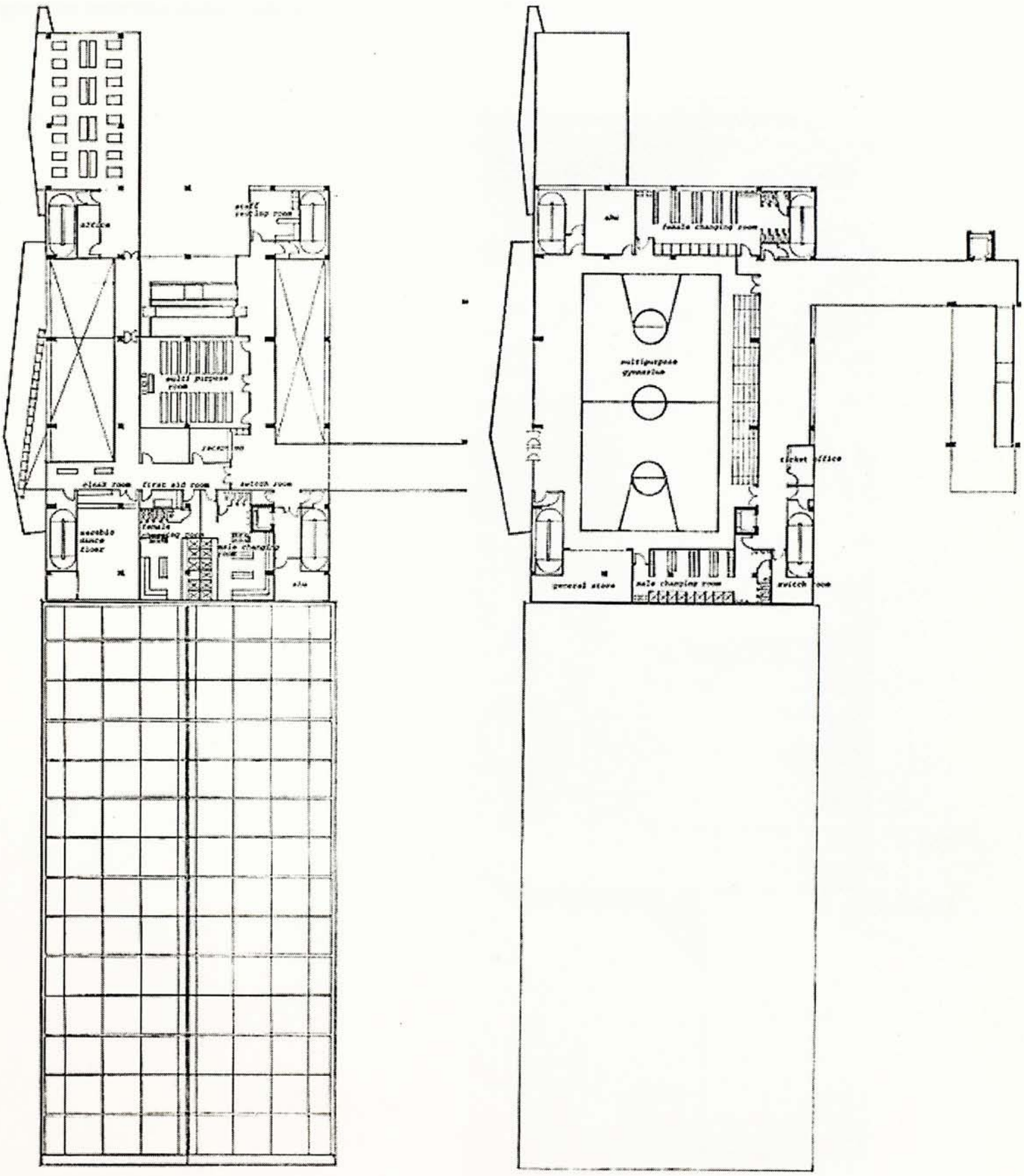
longitudinal section



ground floor plan



first floor plan

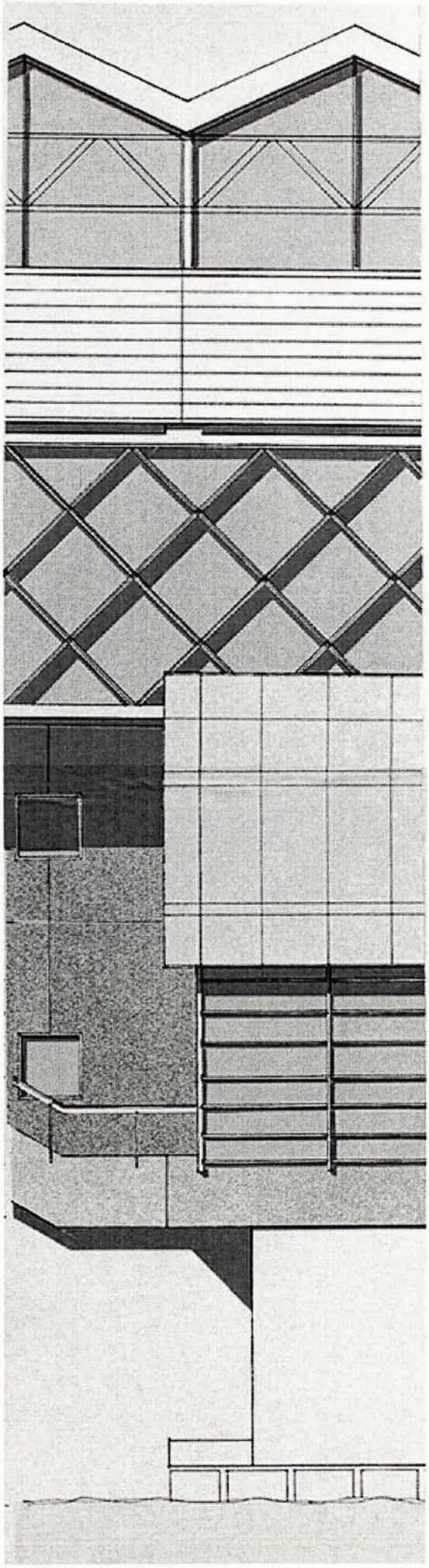


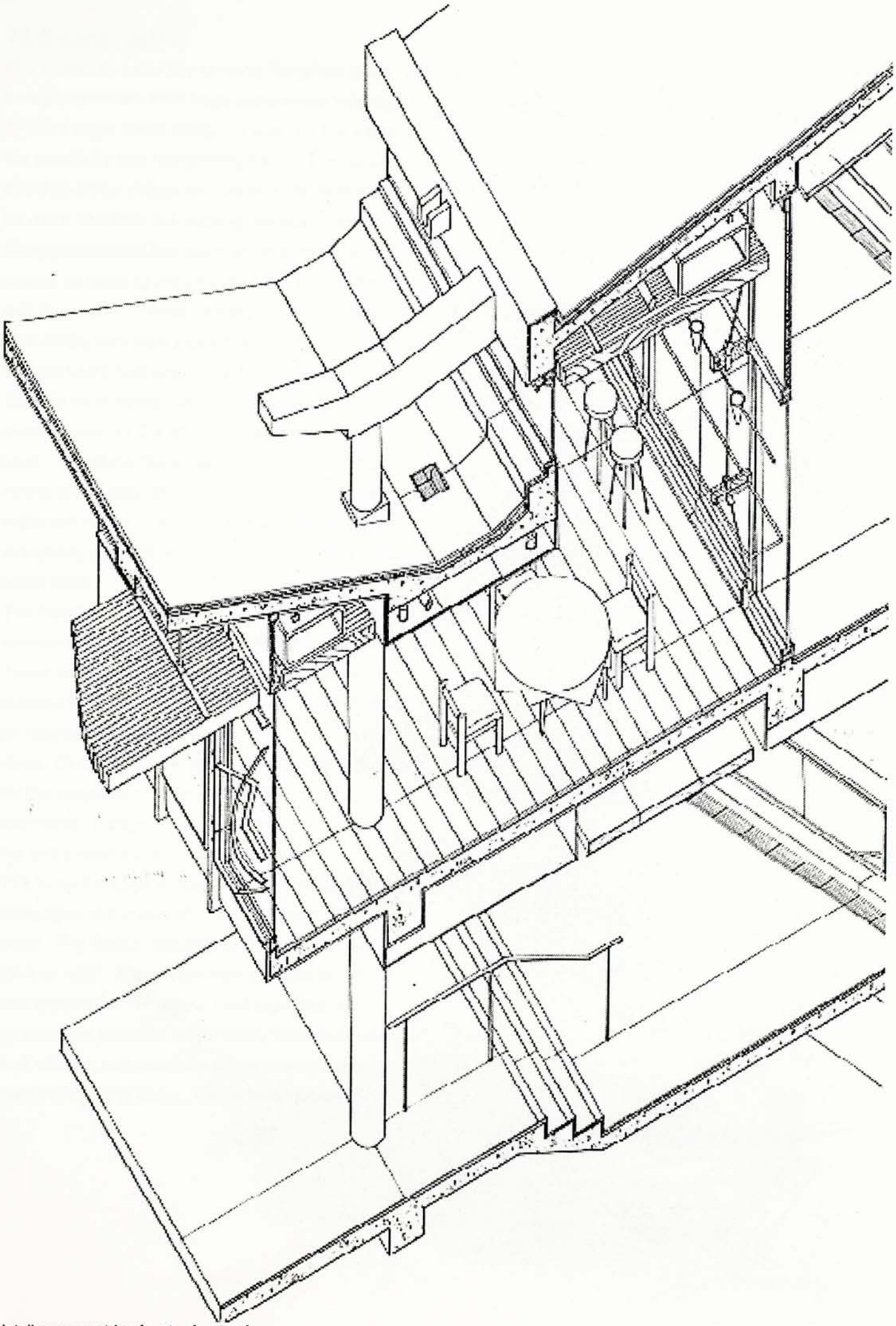
second floor plan

third floor plan

14.13 detail study

detail studies have been done for the recreational building and cafe complex. It mainly concentrate on choosing of building materials, architectural detail treatment, technical construction wall section studies, etc.. This is to show the level of thinking which a building design should be thought of in real case. Although it did not reach the level of a full set of construction drawings, only key park of the building complex has been blow up for study purpose.





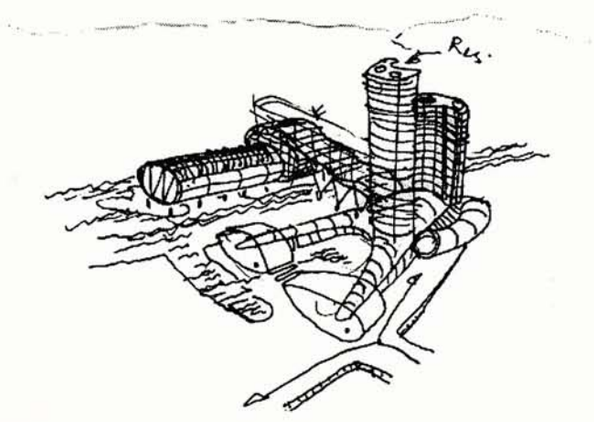
detail axonometric of water front cafe

15.0 conclusion

The project of water city in Hong Kong had gone thought exercises from large scale urban planning to detail water place design. It open up the vision to the possibility that Hong Kong's water front design could be better design and utilized. At least it could be more vital than the existing situation. Hong Kong government has spent great amount of money on building infrastructure like road network and the airport. Private developers are now keen on building profitable properties for sell. There are seldom heard that somebody take care of the urban life, and recreational place for the people. There is even no need to talk about the design of water front. Therefore, the purpose of this project is to let others to visualize there is an opportunity for us to make use of our harbor and put something everybody could go and enjoy their life close to the water front.

The function and landuse being chosen to be explored in this project might not be the absolute. There are also thousands kind of functions might suitable to be next to water, so this only working as an example of water front development could be done. On the other hand, detail water place design for the project is not done sophisticated enough at this stage, Further exploration should be made if we really want a marvelous water place.

The West Kowloon reclamation project had just completed at the time of writing this concluding page. The harbor crossing tunnel has just opened at April 1997. The government planned was fixed and worked out. However I still hope that our government planners would really think more about well utilizing and take care of our most precious property in Hong Kong, the Victoria harbor.



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acknowledgments for illustrations

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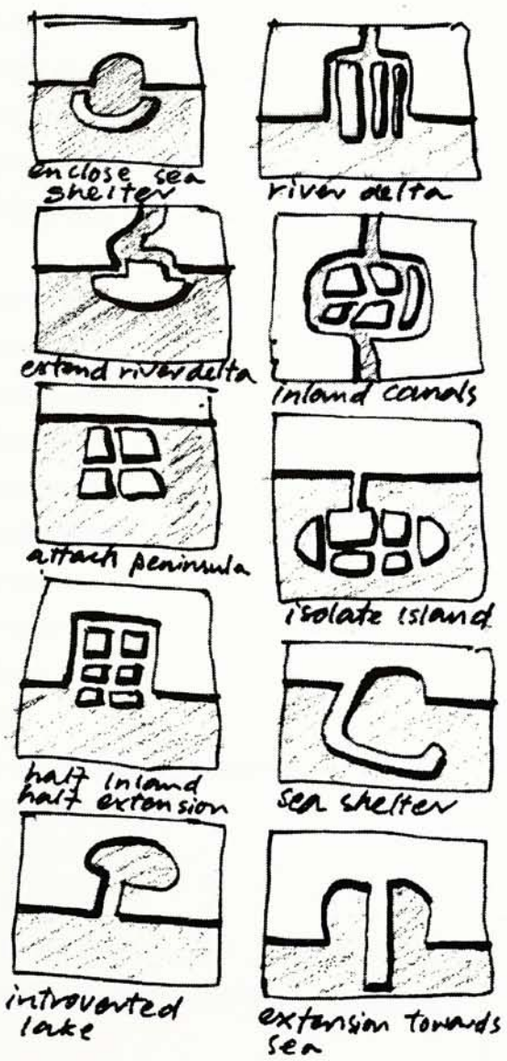
water city in Hong Kong

program report (revision 1) *18th Dec., 1996*



aaron chan wing kai
95033920

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project statement

the project is titled the "water city " of Hong Kong. It is an experimental project on using natural and artificial water bodies in urban design level in an extensive way so that "water" would become a main feature of the a newly developed area.

The main focus of the design exercise would be on public spaces and recreational areas in order to demonstrate a more active use of water front in Hong Kong.

schedule of works

the project will be divided into two levels: an urban design level and a building design level. The urban design level portion is main focus on creation of water fronts and reshape the site context in order to have more connection from the urban activity center to the water front in a macro-scale. The building design level would be concentrate on smaller scale design on exploration of interaction of human activities and water bodies, architectural integration which can create more active use of water, and how use of water frontage could be maximized in a micro-scale level.
comparing of the both exercise, more effort would be put into the building design level. Therefore, 1/3 of the design period would be spent on the macro-scale project and the rest would be on building design.

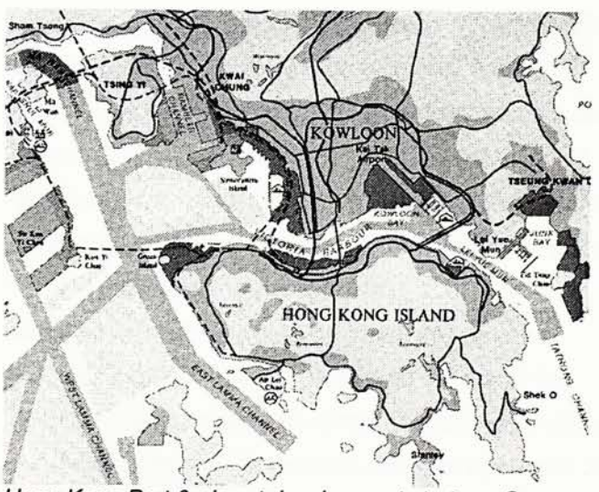
site selection criteria

building cost
keep construction cost of the water city in a reasonable sum, avoid substantial excavation of land.

potential site for development
select area where has larger flexibility in context and more room for test options.

room for improvement
identify site area where is not well utilizing the water front and have rooms for improvement by design.

nature of site
the site area should be within urban district so that the project could demonstrate how public could be benefit from the improvement of urban water front design.



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introduction:

a water city in Hong Kong

Restructuring the water front districts in order to maximize water frontage, concentrate urban activity center near water front, high light Hong Kong water front's unique character, and explore the "magical" quality of water bodies.

the site

the central and South portion of west Kowloon reclamation area together with Kowloon Point would be the extent for the urban design exercise

magical quality

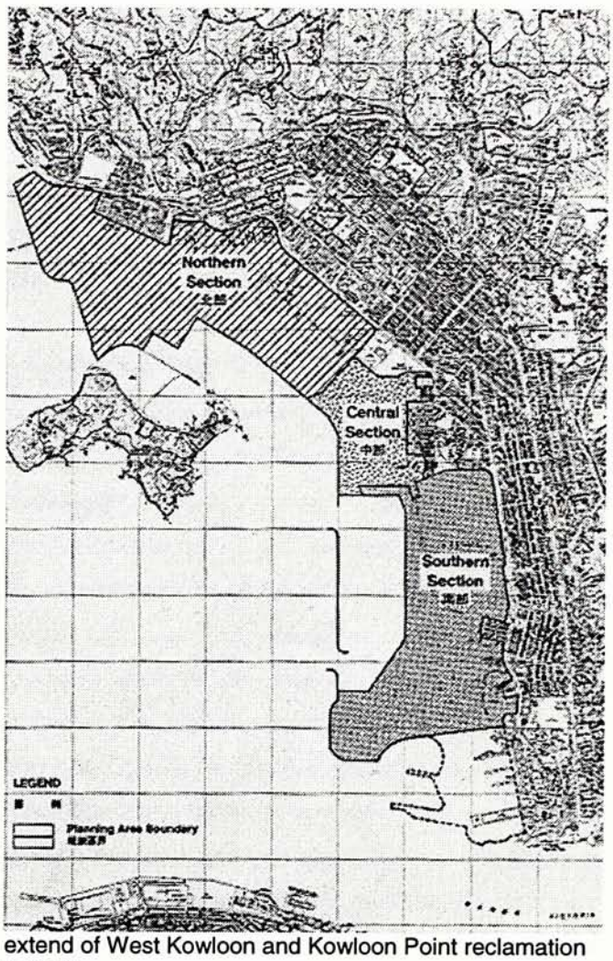
Water possess a magical meaning to people and architecture.

> *" Water and Architecture have always had for me a part in balancing the yin and the yang, and of restoring some semblance of balance to our teetering world.....Water as architectural material was exuberantly out of step with the straight-laced times, being possessed of mysterious qualities that, for instance, related the water in a specific place with all the rest of the water in the world "* Charles W. Moore, Jane Lidz, *Water and Architecture*, Thames & Hudson, London, 1994

People like to look at water, travel on ferries and let sea breeze blow over their face, and even touch the water. Perhaps they like water because they need to have a balance psychologically between the hard element which is the built environment and the soft element which is the water bodies. Perhaps water is like greenery in an urban city. People like to have greenery in a city because they want balance of nature and the man made environment. Water can be treated in the same way with even more flexibility

water as a unique asset to Hong Kong

When we look back to Hong Kong, water bodies, are always her unique asset. The Victoria Harbor



extend of West Kowloon and Kowloon Point reclamation project

has the highest economic value since the British came in 1842. Having had hundred years development of the territory, buildings are now packed on the both sides of the harbor and still the harbor is the center of focus. Major daily activities in the harbor are cargo transportation by containers, tow ships running back and forth, ferries traveling to both sides and connecting outlying islands, private boats sail across, etc.. The water body is mainly used by marine transportation of goods and cargo in order to up-keep the economy and business of Hong Kong. However, the harbor is not seem to be respected by the government and general public which has been shown in the recent reclamation project. The area of our harbor is going to be smaller and narrower; water front would become harder to access because of the newly planned expressway run parallel to the coast line and the original inner city center (which originally is the water front) would be more far from the water in the future.

background

extent of government reclamation plan

The west Kowloon Reclamation project is just located out side of the original water front of west Kowloon. The whole reclamation area started from Cheung Sha Wan and down to Yau Ma Tei. An additional reclamation area of Kowloon Point would then added to the South portion of the project which serve as a connection from the newly reclaimed area to the old Tsim Sha Tsui.

cultural and social

1. Nathan Road

Nathan Road is the existing urban activity center of Kowloon Peninsula. It district on around the both sides of the road is highly mixed use of residential and commercial buildings. The road has a distinctive character of being a popular retail boulevard and tourist spot.

2. characteristic districts

There are some places in the district which has its own special character, such as the Temple street existed as night time bazaar; Jade market at Canton Road; wet market near Mongkok Road and the metal work shops around Reclamation Street. These areas existed quite a long history and should be identified as places for gathering people

3. living environment

Since Mongkok and Yau Ma Tei are considered to be old district, most of the residents area living in a crowded environment. Some people area sharing flats some even living in "cage houses". Also because the area around is a popular shopping area, noise is another problem to the residents.

4. culture

compare to other activity center in Hong Kong, such as Tsim Sha Tsui and Central, the character of Mongkok and Yau Ma Tei is more close to popular culture; younger and casual in essence

5. Tsim Sha Tsui

Tsim Sha Tsui is more close to a commercial center in Kowloon, Most of the land usage is for hotels, retail shops, commercial buildings and cultural civic buildings. The place is existing as concentration area for tourist. The character of the place is more close to middle and higher class.

physical condition

1. building massing and street grid

Mongkok and Yau Ma Tei has quite a long history of development since the end of World War II, large amount of low rise (5 to 7 stories) residential blocks were built in the rectangular street blocks at about 40m x 90m big. The orientation of the street grid is layout in North-South direction. The development of recent years added more and more high rise commercial and residential blocks to the area. However those development only exist in rather small scale and tight site area. So that the existing building massing in Mongkok and Yau Ma Tei area is having great variations which is an agglomeration of high and low blocks.

2. Highly mixed use

The land use of the area has changed from mainly residential to nowadays highly mixed use of retail, commercial and residential and seems that the trend would be continue towards more and more commercial oriented. For example, the comprehensive development project of "bird street" site turns the area into purely commercial.

3. the new proposed reclamation project

Street blocks for the new reclaimed area is larger, the size range from 90m x 70m to 250m x 400m. (refer to west Kowloon outline zoning plan).
More than half of the reclaimed land area (183 ha)[1] would be assigned for roads and transportation usage.

[1] *The shape of things to come*, Planning, Environment and Lands Branch, Hong Kong Government, p.125 Table 6

problems and opportunities

the Metroplan

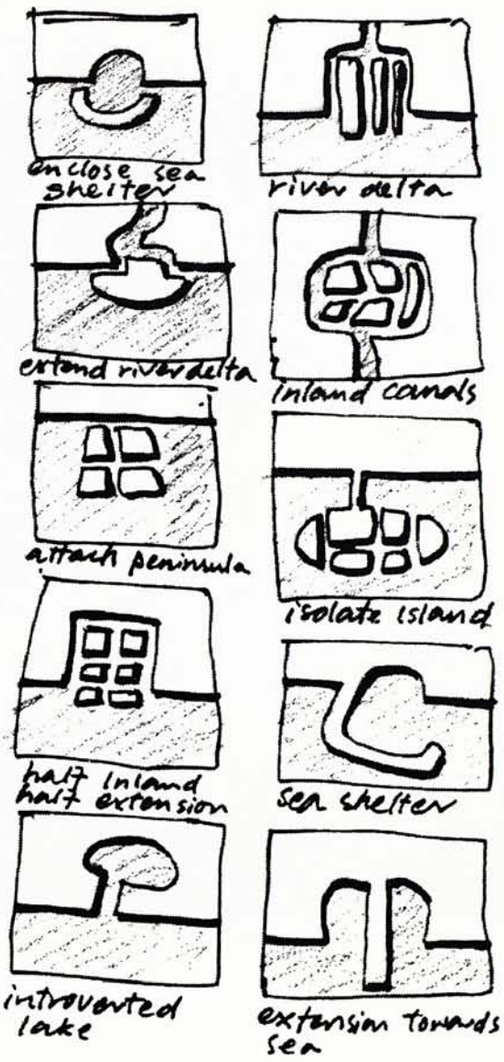
The Metroplan proposed by the Territory Development Department in the 80's had proposed a large scale land reclamation for providing a solution to the land shortage problem. In past decade, the proposal started to be implemented and land fill works were done. Designers and planners had filled in the drawing of the reclaimed piece of land with roads, typical residential and commercial complex.

non-accessible sea front

Hong Kong is a place surrounded by sea, however not the entire or even a half of the urban area sea front is accessible by public. Large extend of sea front is occupied by industrial area, warehouses, and cargo working area. People now are fighting against this right to access sea front. In the government reclamation proposal, large portion of land area is going to be used for the airport expressways parallel to the water front, and also the most valuable west coastal line would be used for cargo working area. This cut down a large portion of water front land which has potential to be developed as major commercial, residential, and recreational center for Kowloon Peninsula.

urban pockets

highway projects usually involve building fly-over. The spaces which under the fly-over and those cut out by the road pattern would become some areas where are not easy to access. I would call those are the "urban pockets" which is like spaces that neglected by people. Having those areas, together with the highways, it would result in physical barrier to pedestrian. On the contrary it could be potential spaces for some special developments like covered retail paths or urban resting place provided that there is enough pedestrian connection



water front structure typology study

deteriorated open spaces

government planners have planned plenty of open spaces among the Metro-area. However, there are two problems concerning the open spaces in Hong Kong: the first is that some open spaces are badly maintained but still old people have to pack in; second is some open spaces are well defined and maintained but no one goes there. This resulted in a lot of "deteriorated open spaces".

interaction of water with human activities,

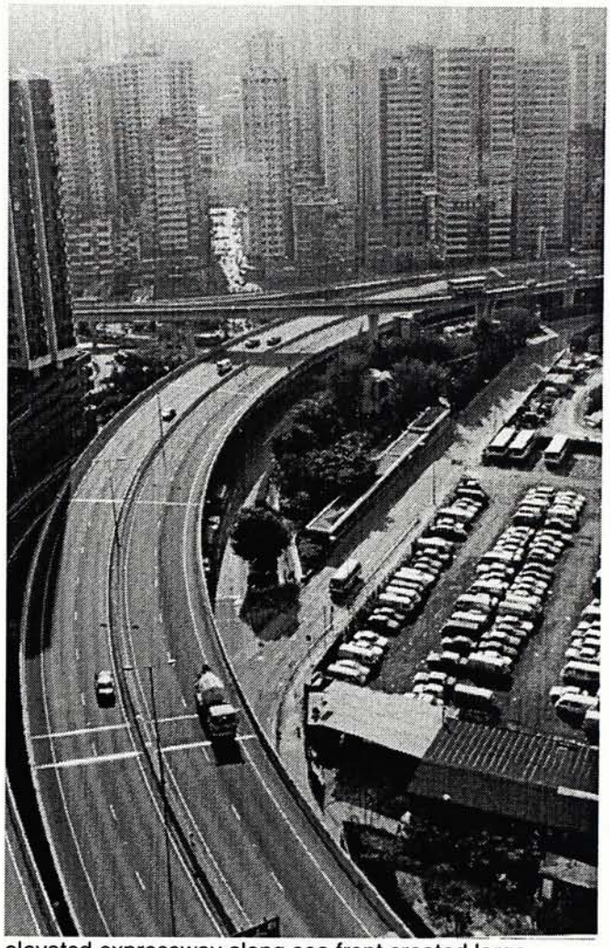
For the existing recreational water front in Hong Kong, Most of those places are hard landscape promenades along the coast. e.g. the promenade at T.S.T. East, water front park at Quarry Bay, and the Wan Chai water front. People can hardly have close contact with water body.

visual connection

Most of the water front in Hong Kong are packed with tall and dense buildings, since they all want to maximize the sea view office space and living flats. As the result, visual connection from the inner city to the water is extremely weak.

the living standard of people

As the 21st century approaches, people in Hong Kong are better educated and wealthier. The quality of their living environment is being more and more care for. At the same time, the idea of environmental preservation is now more deep down in people's consciousness nowadays. The "water city" project could be a experimental project to make use of water body as one of the amenity elements and a special character of the urban area. If the project could work out a better environment by incorporate water body design in the district, it would be an example and direction which the Hong Kong future development projects could follow.



elevated expressway along sea front created large amount of deteriorated urban pockets

constraints

expressway and MTR network

The planned West Kowloon harbor crossing and associated expressway network would be remain undisturbed. So as for the MTR airport railway network layout.

sea channels and anchoring area

for the sea channels and anchoring area just out side of the west Kowloon water front, the basic location, layout and size would be maintained

landuse proportion

basic landuse pattern would be remain unchanged except the size for open spaces, since part of the water area would be counted for trade-off of open spaces.

plat ratio

according to outline zoning plan for South west Kowloon, supplementary note, plot ratio for residential and commercial development are as follows[2]:

residential zone 1 R(A)1	domestic portion	6.5
	non-domestic portion	1.5
residential zone 2 R(A)2	domestic portion	5.5
	non-domestic portion	1.5
commercial		8.0
CDA	to be review by TPB	

[2] *South West Kowloon Outline Zoning Plan no. S/K20/2. supplementary note.*, Planning Department HK 1996

vision / mission:

restructuring of the water front district

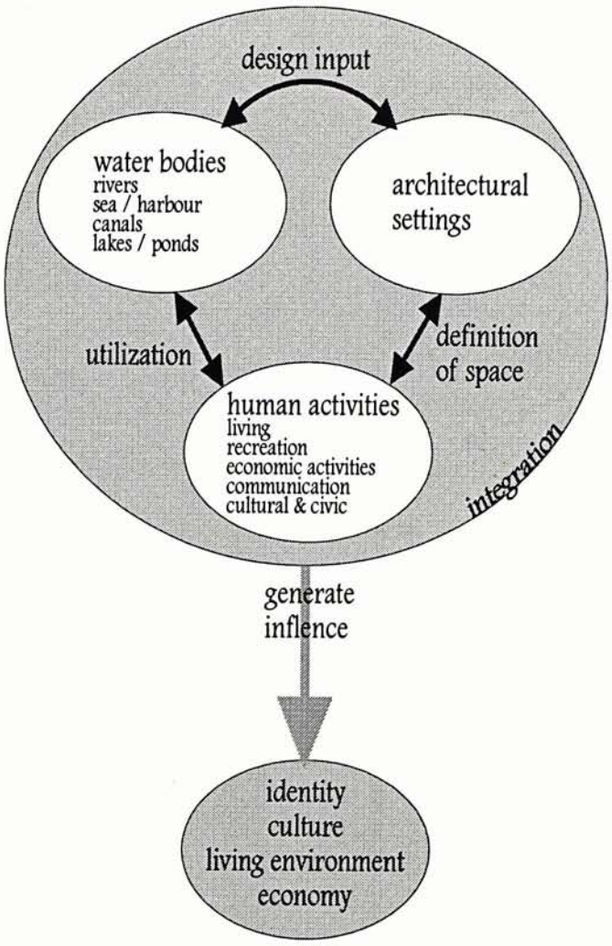
Alternative ways to the current sea reclamation proposal would be explore which would be done mainly through the interplay between form of land, architecture and the water body.

improve living environment

The project would also aim at creating active human-water interaction, to maximize the exposure of water to human and increase their physical and visual connections. Water will be a distinctive feature to the district.

enhance Hong Kong's identity

Through the creation of the "water city", to interpret Hong Kong's identity, highlighting the harbor as the unique asset and attraction of Hong Kong.



goals

maximize number of possibilities and compositions of different reclamation structures. Explore different form of land with relate to the sea; rivers, and canals.

improve integration of architecture and water bodies. Avoid strict and rigid concrete sea wall. Introduce smooth transition from water to the land and allow more activities to happen around.

introduce more activities around the water front. Investigate if living, recreation, cultural / civic, transportation and economic activities can be benefited with the introduction of architectural-water bodies composition.

Improve accessibility to the waterfront. Allow public to be able to go near the water bodies and enjoy the environment. Make use of the water front district to be designed for public entertainment and recreational use.

to interpret the "magical" quality of water in more tangible elements and architectural settings in order to let more people can enjoy and appreciate. For example, different kinds of water bodies: like rivers, canals, fountains, still water ponds, water falls, have different meanings to human and possess different types of architectural qualities.

scope of study / methodology

precedents

an overview to the precedents in other cities to see the possibility of different types of water front structures could be built.

Hong Kong's water front

an overview to Hong Kong's existing water front and the proposal in the Metroplan. See what issues had been identified by the government planners and what other special issues need to be addressed. Find out the potential for the development of water front districts.

human-water relation

investigate relationship of human activities with relate to water bodies. Survey for the existing water front activities happen in Hong Kong. Make reference to water front activities in other cities, for example river side cafe and pub, marine museum, canal taxi, etc., evaluate whether those activities can be introduce to Hong Kong.

test design

Test design for exploring new ways of utilization of water bodies. Create dynamic integration of architecture with water bodies

implementation

Implementation of new water front structures in the already planned urban fabric. Find ways to balance the economic value, transportation efficiency, residential / commercial land demands, green space demand and preservation of water bodies.

water quality

Ways to control water quality. Installation of water treatment plants; control water flow pattern and its velocity; excavation of sea channels, clearing of debris in stagnant area, etc.. To provide a well maintained water body. At the same time, raise concern for people in protection of water environment, minimize water pollution.

concepts / performance requirement

activities

water front has to be tied with certain activities other than purely landscape space. People seldom go to water front for just go to water front. Either recreational purpose or for special reason, an active relationship of human activities and water bodies has to be established. For example, a drive way along the water front can be a scenic drive route, Bars and cafe can be located near to water front.

treatment of vehicular roads

Highways has to be carefully treated if those are along water front. Because highways could be a barrier to people in the inner city who want to access the water front. Some other cities would choose to sunken part of the road underground; some cities would increase pedestrian connections like built more foot bridges, and road cross facilities.

accessibility

In general, water front has to be highly accessible and close neighborhood linkage has to be established. Connections like neighborhood parks, landscape paths, shopping boulevards, cultural / civic spots, etc.. could be a media to tie up living environment and water front.

communal-wise water city

water front should not be only enjoyed by single front row buildings. It has to be communal-wise. Creation of canals to introduce water elements; reserve visual corridor; control spacing of super towers; are ways to let the water front be share by the whole community.

Maximize water frontage

Frontage of water front could be increased by employing different shapes of structure

design of sea frontage detail

Strict and hard water front sea walls should be avoided, since they would constitute great waves within the harbor in Hong Kong.

continuation

continuation of water front promenade and landscape path has to be emphasis. It would contribute to the utilization of the water front, which can encourage more smooth and efficient pedestrian circulation flow.

ways of travel

different ways of traveling along water front could be introduce, such as, by boat, ferry, bicycle, vehicle, monorail, tram, and pedestrian walks. it could create different experience in appreciation of water front.

schedule of accommodation

basic landuse proportion of the government proposed plan is kept

1.0 residential area 29ha.

mixture of high-rise and low rise residential apartment blocks, community facilities like schools, market, health center, etc.

2.0 commercial area 36ha.

2.1. commercial blocks

office towers, urban landscape space, eating place, transportation arrival points, parking spaces, etc.

2.2. visitors facilities / hotels

traveler's information center, tourist spots with distinctive characters, hotels, pension, and hostels.

2.3 retail district and shopping boulevards

shopping streets / boulevards, malls, public gathering places, cinemas, eating places.

3.0 cultural / civic and recreational space 42ha

3.1 open spaces and natural district

Urban scale parks, greenery along roads, significant natural preserved area, green pedestrian path.

3.2 active recreation space

museums, cultural center, theaters, public art installations, sports fields, swimming pools, gymnasiums, public libraries.

4.0 water ways and water body definition

rivers, canals, harbor fronts, sea shelters, ponds, fountains in urban resting place, water and landscape gardens.

5.0 pedestrian walk network

promenades, scenic walks, vehicle-free pedestrian area, road crossing facilities, gathering nodes.

6.0 Road area and other use 44ha

6.1 transportation system

public transportation network, traffic terminals, transportation interchange point, tram way, road system, bicycle path, scenic drive.

6.2 m/e and utilities

transformer station, pump station, etc.

7.0 other districts has distinctive social character

jade market, temple street, boat nightclub, local bazaars, etc.

8.0 comprehensive development area 31ha.

designated for usage of commercial, or residential and mixed use

9.0 G /IC 26ha.

government and institutional buildings, community center, post office, police station, fire station, etc..

bibliography

1. Charles W. Moore, Jane Lidz, *Water and Architecture*, Thames & Hudson, London, 1994

2. *The shape of things to come*, Planning, Evironment and Lands Branch, Hong Kong Government

3. *West Kowloon Reclamation , Planning and Urban Design Summary Report*, Territory Development Department, Urban Area Development Office, August 1992.

4. South West Kowloon Outline Zoning Plan no. S/K20/2, and supplementary note, 1996

introduction

water-city

a residential and recreational development with integration of water body. The scenario is that there is a comprehensive development area assigned for a water front residential / commercial project with a combine program of a Urban Council recreational water front park.

the undergoing reclamation project for West Kowloon

the master plan

1. the government proposed plan

a government proposed land reclamation project has been planned and to be finished by 1997 at the west coast line of Kowloon. The major purpose for such reclamation is for providing land area for the airport railway and west harbor crossing expressway network , on the other hand for providing residential land for accommodate the continuously increasing demand of housing around urban area. major commercial area of Tsim Sha Tsui would be also extended by the plan of another reclamation project of Kowloon Point which would be act as a connection area from Tsim Sha Tsui and the newly reclaimed West Kowloon.

2. An alternate reclamation scheme

a master plan for the "water-city" in urban design scale has been done by using the government proposed reclamation project of central and south portion of west Kowloon reclamation area and together with Kowloon point reclamation area as the basis. The original proposed landuse proportion, mass transportation network plan, and the West harbor crossing associated highway network were remained unchanged. The urban design exercise was done with the goals of increasing water frontage and improve connection and accessibility of water front district form inner city/

3. recreational and residential sea front

West part of the proposed scheme in the master planning exercise is a recreational and retail area next to the water front park and with residential development above which is mainly located on a separated landfill island. It is chosen as a pilot site for the development of the said "water-city".

hypothesis

(This part is only for reference or be treated as design vision)

The reason of choosing this site with those landuse is that the "water-city" project is:

1. to experiment the integration of urban activity center with water front development;
2. and let public be more convenient to enjoy being at water front while they are having their daily recreational activities.
3. On the other hand to demonstrate an example of active use of water front along Hong Kong.
4. And also to demonstrate how living environment could be improve with introduction of waterways into the housing development.

existing background

vehicular connection

From the new reclaimed land, there are vehicular as well as pedestrian connection with the inner city center, i.e.: Mongkok, Jordan and Tsim Sha Tsui connected by Nathan Road.

nearby districts

The main vehicular connection from the inner city to the selected site would be the Austin Road which extend towards the water front. For such connection also tie together the districts of Jordon, Nathan Road, Tsim Sha Tsui and even Hung Hom.

character of the context

Such districts are now existing as major tourist and shopping area.
Hung Hum is also a major transportation interchange point for traffic from New Territories and Hong Kong Island.

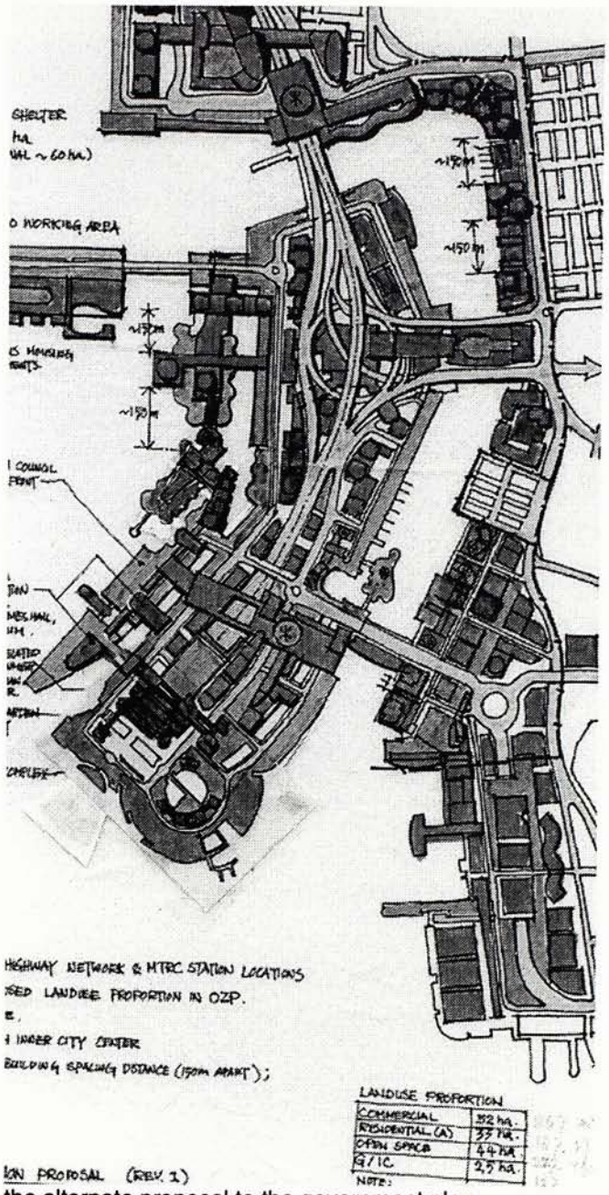
future state (base on the alternate master plan)

landuse pattern

the whole development area is reclaimed flat land. The main landuse are residential and commercial, with the commercial district concentrate on the south portion. There are two comprehensive development areas CDA, one at Tai Kok Tsui MTRC station and the other at West Kowloon station. Also there are G/IC buildings around the central portion. A complex of the future SAR government is going to be located on the South tip of the newly reclaimed peninsula.

transportation pattern

the west harbor crossing highway network and the associated traffic interchange point has taken up large portion of the land area. The site is located next to the expressway and highway interchange point connecting the places of Kowloon Point, Tsim Sha Tsui, West harbor crossing, Mongkok, and Sham Sui Po.



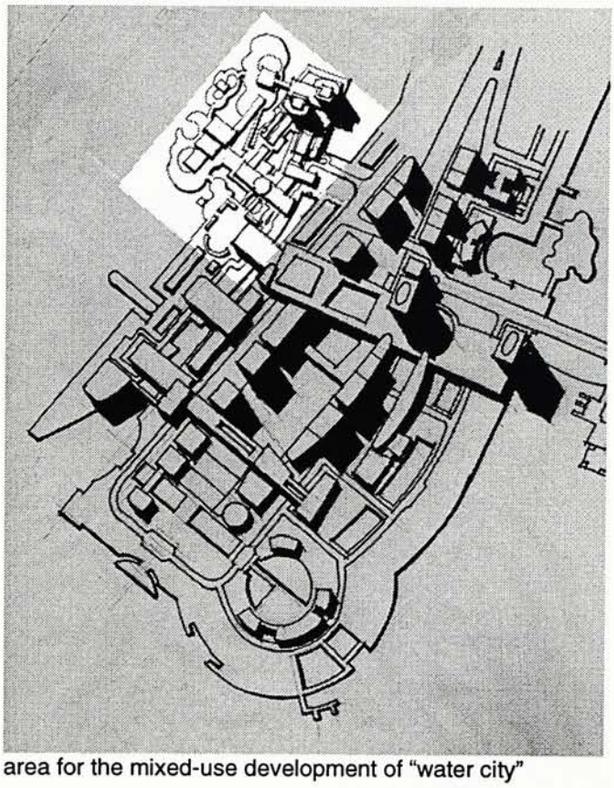
the alternate proposal to the government plan

mass transportation

the nearest mass transportation station is the Kowloon Station of MTR, which is one of the major station of the airport railway. The site is connected with the station by an extensive linear development from the station to the west water front. Such development shall be provided with entertainment facilities, retail shops and pedestrian traveling belts.

pedestrian connection

the main pedestrian connection to the site is the extensive MTRC development and the west water front retail promenade. Both of the above pedestrian route terminate and meet at the corner point where the site is located.



area for the mixed-use development of "water city"

client profile

client body

the proposed project include mainly a residential and retail / recreational development, as well as minimum of 6 ha district plus local public open space. (refer to schedule of accommodation). The client for the public part is the urban council. For the private part is a private developer.

client's mission

1. urban council
   to provide adequate amount of active and passive open space[1] to serve the population of south west Kowloon.
   to provide enough "magnetic facilities" and enough access for ensuring the vitality of those planned open space.
   to provide a special park with integration of water body and using the water body as main attraction and focus.

[1] Passive recreation space: Areas (usually landscaped) where games facilities are not provides but where people can enjoy the surroundings in a leisurely manner. Active recreation space : Developed and managed area providing games facilities either free or at a charge. *Hong Kong Planning Standard and Guidelines Chapter 4, Recreation & open space* pp.2

2. private developer
   to provide sea view apartment for middle class ~~people~~ with the approximate price per sq. feet at $10,000 (luxurious standard with comparison of current property price)

to provide a shopping and recreational area using the integration with water body as an attraction which planned to serve as an urban activity center for south west Kowloon besides Nathan Road.

the government proposed plan for West Kowloon

problems and opportunities

sea front highways

Highways along sea front usually brings the problem of being physical barrier for pedestrian. The West harbor crossing road network can act as a physical barrier for the people who want to approach water front, since there is no attraction under the gigantic concrete structures of the highways and the environment under flyovers are really bad.

non-accessible sea front

for the original government reclamation proposal, the waterfront next to the central portion is assigned for a sea shelter and cargo working area. The only accessible water front for public is the peninsula above the west harbor crossing entrance which is planned for a park.

The alternate proposal to the reclamation open up the entire water front for public and move the cargo working area further north to the industrial working water front. The entire west water front are now designated mostly for public use and target for a water front urban activity center.

visual connection

Most of the sea front buildings in Hong Kong are tall and packed. The reason is due to the mechanism of maximization of economic yield from having sea view apartments and office space. This results that only the front row of buildings facing the sea can

enjoy the connection with the water body. The district behind the front row is another world.

continuation

recreational water fronts in Hong Kong are always lack of continuation. For example, the TST East promenade end at a strange point near Hung Hom. On the contrary, the end at TST Pier is quite pronounce. The site for the "water city" is located at the end point of West promenade of the new water front. There is opportunity to be developed as a well connected and pronounce recreational spot.

Water front & activity center

The urban activity center and the water front are always separated in Hong Kong. Promenades in Hong Kong are usually hard landscaped area only, without any connection to other activities. Nathan Road is the existing urban activity center in Kowloon, in order to make the newly developed water front area to be another urban activity center, connection to the inner city and the functional attraction of the place itself have to be considered.

luxurious apartment development

demand for luxurious apartment in Hong Kong these years increases and the market begins the grow in a steady rate. Good locations such as Ho Man Tin, Prince Edward, Mid-level at Hong Kong are the main concentration of those so called luxurious apartment which each flat is about $100m^2$ to $150m^2$ at the price of $10,000 per sq. ft.. The selling point of those locations are usually convenient traffic, good views, quiet environment, etc.. It is believe that the site would be a suitable place for building the similar type of luxurious apartment buildings.

constraints

site area

Total area defined by boundary: 12.56 ha
area of water body: 4.96 ha
area of land: 7.60 ha

Plot ratio

according to outline zoning plan for South west Kowloon, supplementary note, plot ratio for residential and commercial development are as follows[2]:

residential zone 1 R(A)1	domestic portion	6.5
	non-domestic portion	1.5
residential zone 2 R(A)2	domestic portion	5.5
	non-domestic portion	1.5
commercial		8.0
CDA	to be review by TPB	

recreational space provision

minimum of $5000m^2$ of recreational space have to be provided with 2/3 active recreational space and 1/3 passive recreational space. However the waterfront park in the project is serving the whole south west Kowloon as a district recreational space, so the total area should be more.

road area provision

1/6 of the development site area to be planned as roads and communication. (approximate area: 7.6ha. x 1/6 = 1.3ha.)

residential area provision

minimum size for one apartment flat to be $50m^2$ [3]
number of persons per flats is 2.6 (2001 standard)

[2] *South West Kowloon Outline Zoning Plan no. S/K20/2. supplementary note.*, Planning Department HK 1996
[3] standard for residential zone 1 in Metroplan area, *Hong Kong Planning Standard and Guidelines Chapter 2, Residential Densities*, pp.26

mission

use water body as a main attraction to the place and make use of the architectural integration of different functional spaces with water body to highlight the character of this water front district development for the reason of attracting more public to the water front and up keeping the land value of this water front development.

issues

utilization of water and integration of architecture with water body

maximize water-architecture design options in order to create varies experience for the users.

the continuity of recreational space

provide continuous attraction on public recreational space in order to up keeping the vitality of the place. On the other hand to create a logical spatial sequence for the sack of the experience of pedestrian which aiming at providing flexible choice of smooth traveling routes through different functional spaces

accessibility to the water front

provide easy access for the public to access the water front to do all kinds of recreational activities.

interpretation of "magic quality" of water

investigate how magical quality of water be translated into architectural design. By arrangement of different kinds of functional spaces and activities which guide through users to enjoy the water front environment

visual connection and penetration of water ways

provide visual connection to the sea view for the buildings those are not close to water front. Also design minor water ways to penetrate into inner city development

control of water levels and quality

control the fluctuation of level due to the tidal change; and provide water filtration and purifying facilities to up keep water quality.

seasonal change of activity pattern

outdoor functional spaces have to be designed for the purpose of use both during cold and warm season.

goals

continuity of recreational space and fluidity of pedestrian flow

recreational space should be well connected to public transportation nodes or urban activity center dual entrances are recommended to a linear recreational space in order to keep users moving in either direction along the long space without the need to turn back to where he or she comes from.

resting place provision

reasonable amount of resting places to be provided within the recreational space, such as benches, view terrace, fishing platform, etc.. Shading devices such as trees and trellis to be provided.

soft landscaping area

minimum 1/2 of the total passive recreational area to be planned as soft landscaping space.

weather sheltered outdoor spaces

part of the outdoor activity spaces should be provided with weather sheltering device, such as wind barrier, pavilion, for the purpose of keeping the space could be used in extreme weather.

activity magnet

activity magnet along the recreational waterfront functional space have to be allocated next to passive open space where act as an attraction point to the public.

harbor view and visual connection

all openings of residential flats facing the harbor side should be provided with an unobstructed view to the harbor with reasonable width.

height limits

height limits for buildings should be not higher than 100m P.D.. The principle for this limit is to allow the buildings far from the sea front can share a portion of the harbor view.

water levels

control water level for inner water ways to avoid influence of tidal change. Dams, pump stations and filtration plant to be installed.

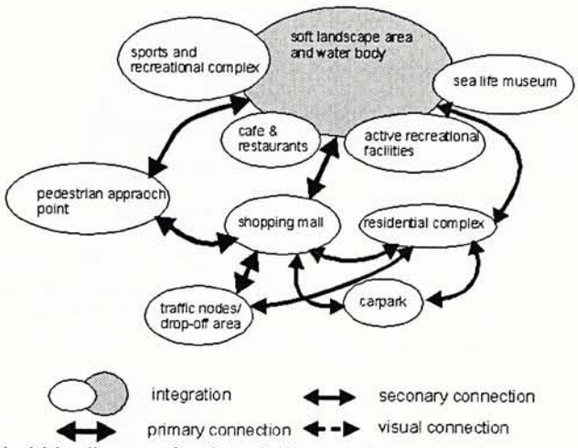
sea frontage construction should be soft in order to absorb waves from the harbor.

depth of inner water ways

Inner water ways to have minimum width of 10m. level difference between bed of water way and pedestrian walking level should be less than 1m.

width of pedestrian walks

pedestrian walk along inner small water ways (less than 15m wide) should have minimum width of 7m.



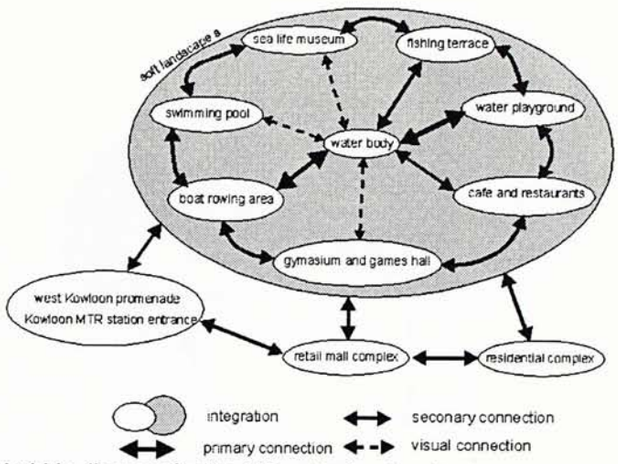
bubble diagram for the whole complex

schedule of accommodation

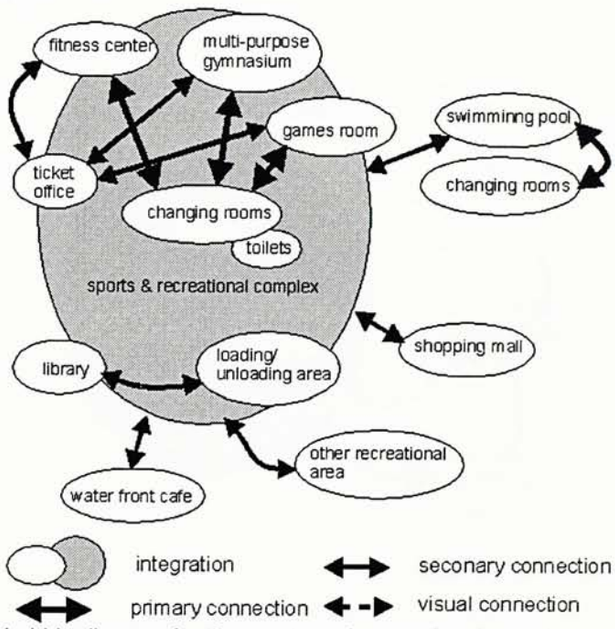
1.0 open space	***30000m²***
1.1 passive open space	15000m²
changing rooms / toilets	
M/E and utility rooms	
general office	50m²
jogging track	
bikeway	
1.2 active open space	15000m²
1.2.1 indoor games hall:	
fitness center	1000m²
games room 1000m²	
multi-purpose gymnasium	1250m²
changing rooms / toilet	200m²
ticket office / utility room	100m²
m/e rooms	200m²
1.2.2 water playground	2000m²
1.2.3 swimming pool	4000m²
filtration plant	400m²
m/e and utility rooms	300m²
changing rooms / toilets	300m²
1.2.4 library	2000m²
1.2.5 open-air theater	1600m²

2.0 residential complex *(assume 3 blocks to be built)*

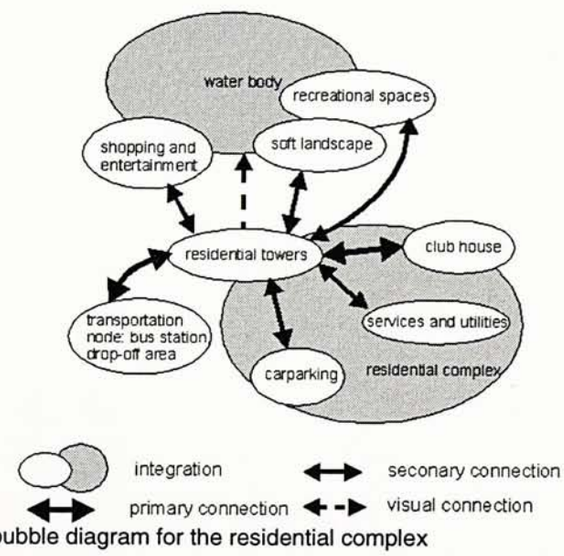
2.1 1900 flats with 50m² per flat (or 630 flats with 150m² each)	95000m²
m/e rooms	1500m²
elevator space	54m²
2.2 car park spaces (640 nos.)	16000m²



bubble diagram for the UC water front park



bubble diagram for the sports and recreational complex



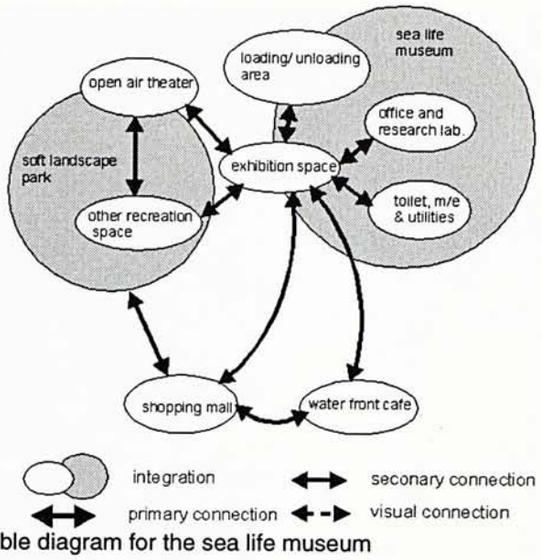
bubble diagram for the residential complex

3.0 sea life and reclamation information center

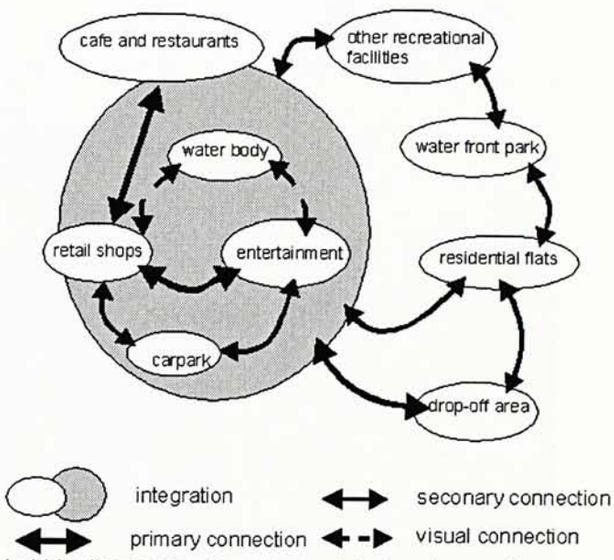
3.1 exhibition space	2000m^2
office	600m^2
research lab.	300m^2
m/e space, utilities	300m^2
toilets	100m^2

4.0 commercial and entertainment complex

4.1 complex building	30000m^2
retail shops / department store	
restaurants / cafe / food plaza / pub & bar	
disco / lounge	
cinemas / theaters	
gallery / exhibition space	
utility / toilet / m&e	
car park space(500 nos.)	5000m^2
4.2 loading and unloading area	15 nos.
4.3 taxi lay-by	15 nos.
4.4 drop-off area	2 nos.
4.5 bus station	2 nos.
4.6 open-air cafe and restaurants	3000m^2



bubble diagram for the sea life museum



bubble diagram for the commercial shopping mall

bibliography

1. *Hong Kong Planning Standard and Guidelines,* Planning Department, Hong Kong

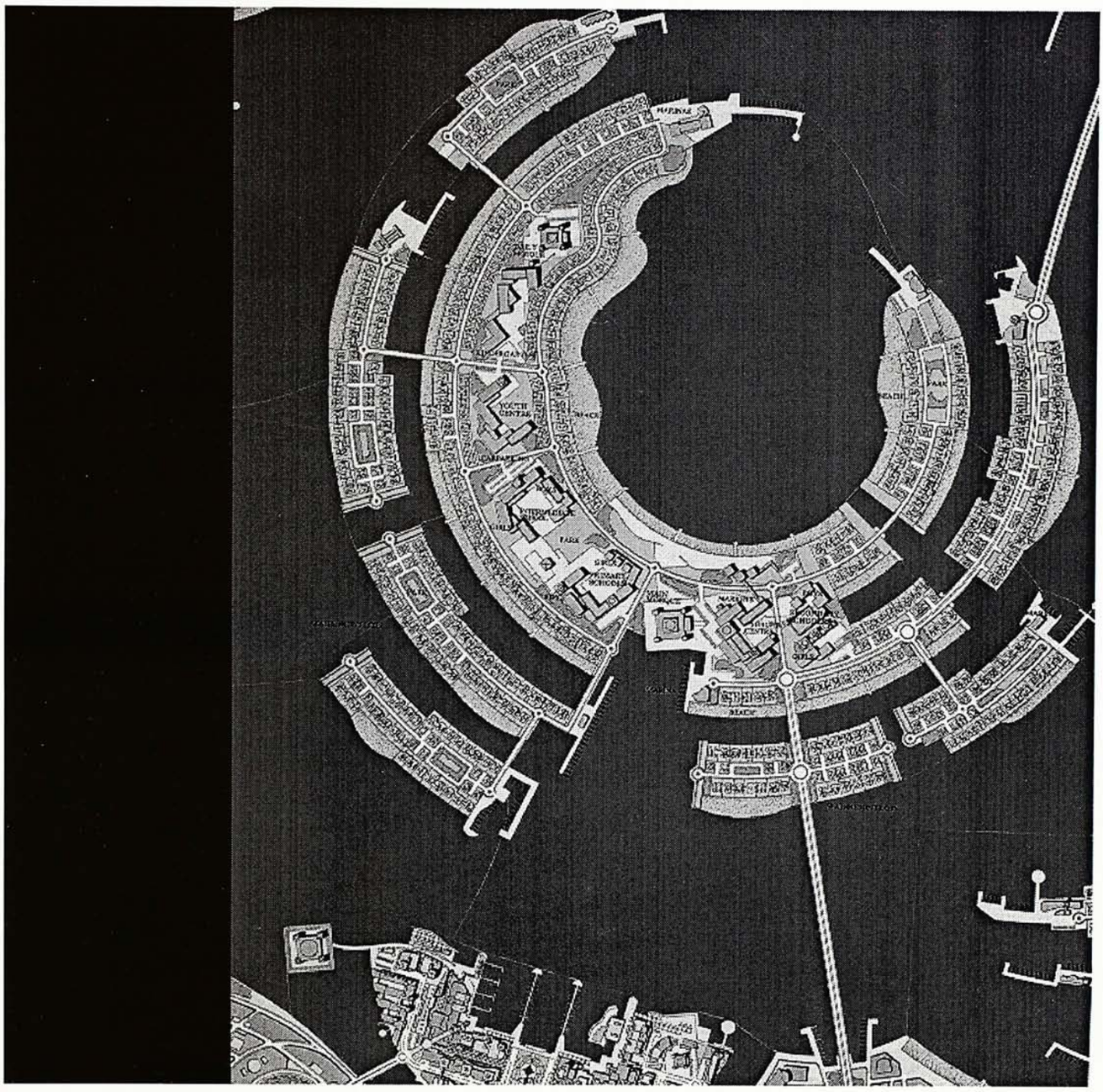
2. *The shape of things to come*, Planning, Evironment and Lands Branch, Hong Kong Government

3. *West Kowloon Reclamation , Planning and Urban Design Summary Report*, Territory Development Department, Urban Area Development Office, August 1992.

4. Leung Woon Tim. Moses, *Thesis Report on Urban Water Theater; (green) Nullah + Urban Foci (re) generation, Mongkok,* Hong Kong University, 1990/91

5. South West Kowloon Outline Zoning Plan no. S/K20/2, and supplementary note, 1996

separate island with water ways



Shuwaikh island community; Kuwait Pearls Sea Cities, by Cox Architects, Australia

structure

a separate island community with waterways and canals which the is linked up with bridges

water usage

marina, beaches, , recreational

land usage

community facilities, residential, religious center, commercial development, market place, schools.

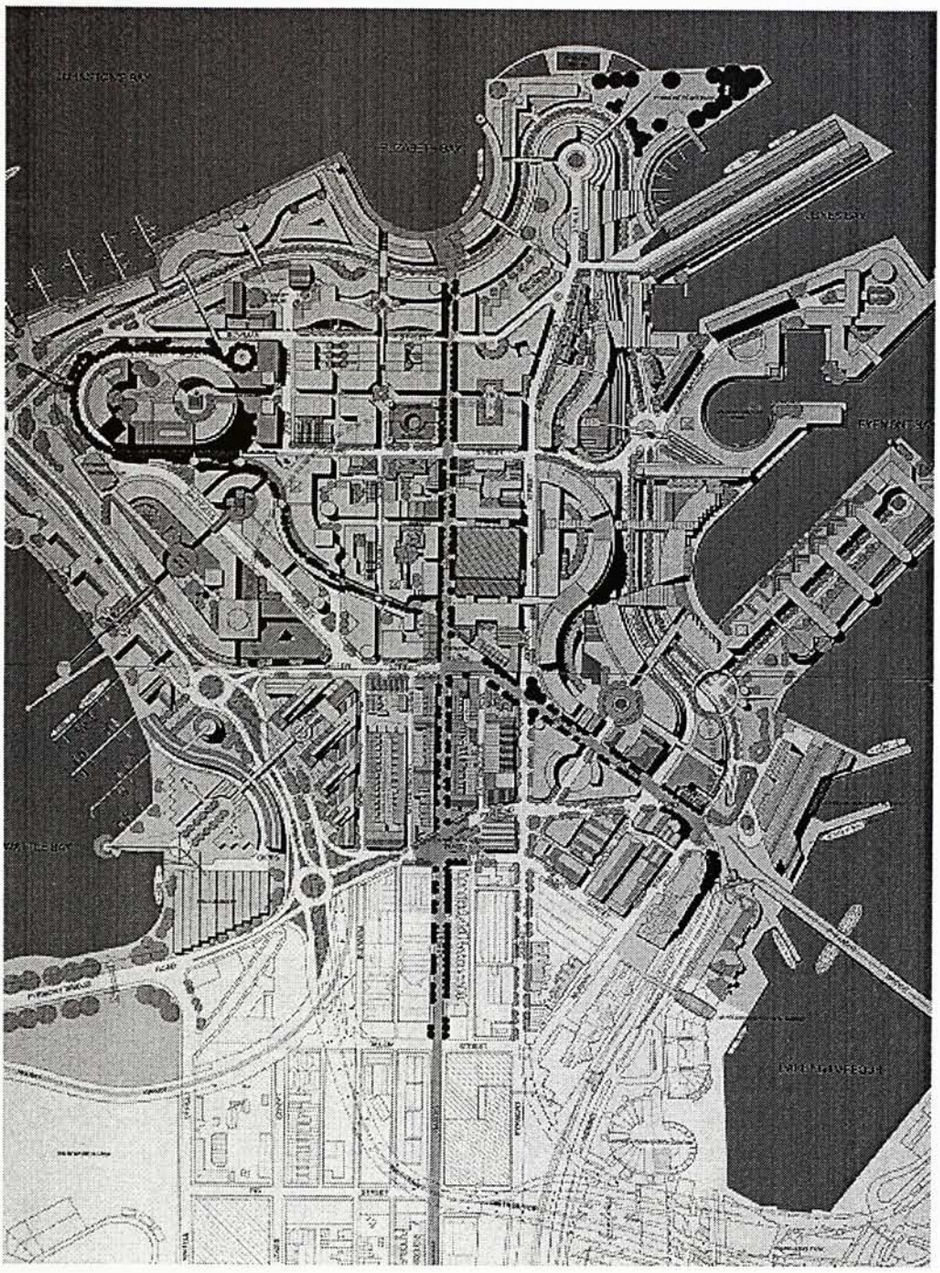
Summary

a visionary project in Kuwait City tried to maximize the exposure of the city to the water body. A number of artificial islands to be planned on the sea forming a self-sustained community that they are connected by bridges. Each islands are having different land usage such as residential; and commercial usage

Bibliography:

Master Architects Series, Cox Architects; The Images Publishing Group Pty Ltd., Australia, 1994

peninsula



master plan of Pyrmont Point, Sydney

structure

a community at Pyrmont Point of Sydney on a peninsula consists of varies type of water front structures such as piers, recess bay, marina, and straight water front.

Water usage

transportation, recreational

land usage

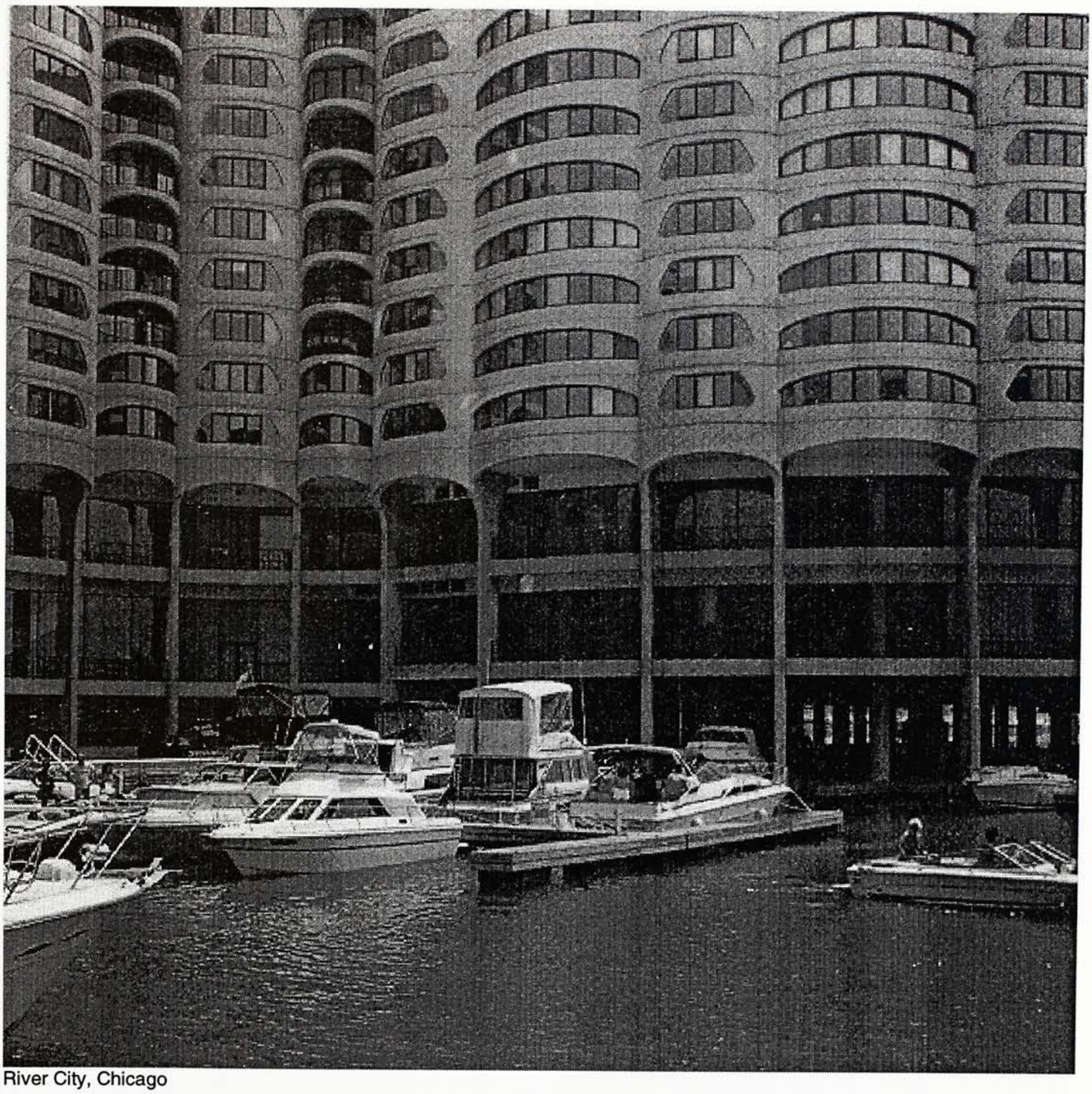
waterfront landscape, community amenity, recreational facilities, piers, residential, commercial.

Summary

an urban renewal project of community of Pyrmont Peninsula next to the central business district of Sydney. Original shape of the peninsula has not been large changed. Spaces along the water front was being take care and green space was planned.

Bibliography:

Master Architects Series, Cox Architects; The Images Publishing Group Pty Ltd., Australia, 1994



River City, Chicago

structure over water body

structure

concrete structure built above marina

landuse

high- income residential apartment; commercial spaces at the base; health center; parks; clubs, etc..

water usage

marina for private boats and yacht

brief description

450 apartments were built along the 200 meters long water front of Chicago River. The traffic design patterns of this River city is for maximize exposure to the Chicago river. It does create close interaction of the residents to the water body.

Pod Complex at Ontario Place

view to the whole exhibition complex

structure

an artifical island separeted from the orginal water front connected with bridges and incorporated different types of structures around, such as sheltered marina, structures spanned over water, separated islands, etc..

landuse

exhibition pavilion; parks; amenities, (restaurants, shops, sports and cultural facilities)

water usage

canals; inland-lakes, marina

three ideas

offer architectural flexibility and be adaptable to the changing demands over the years

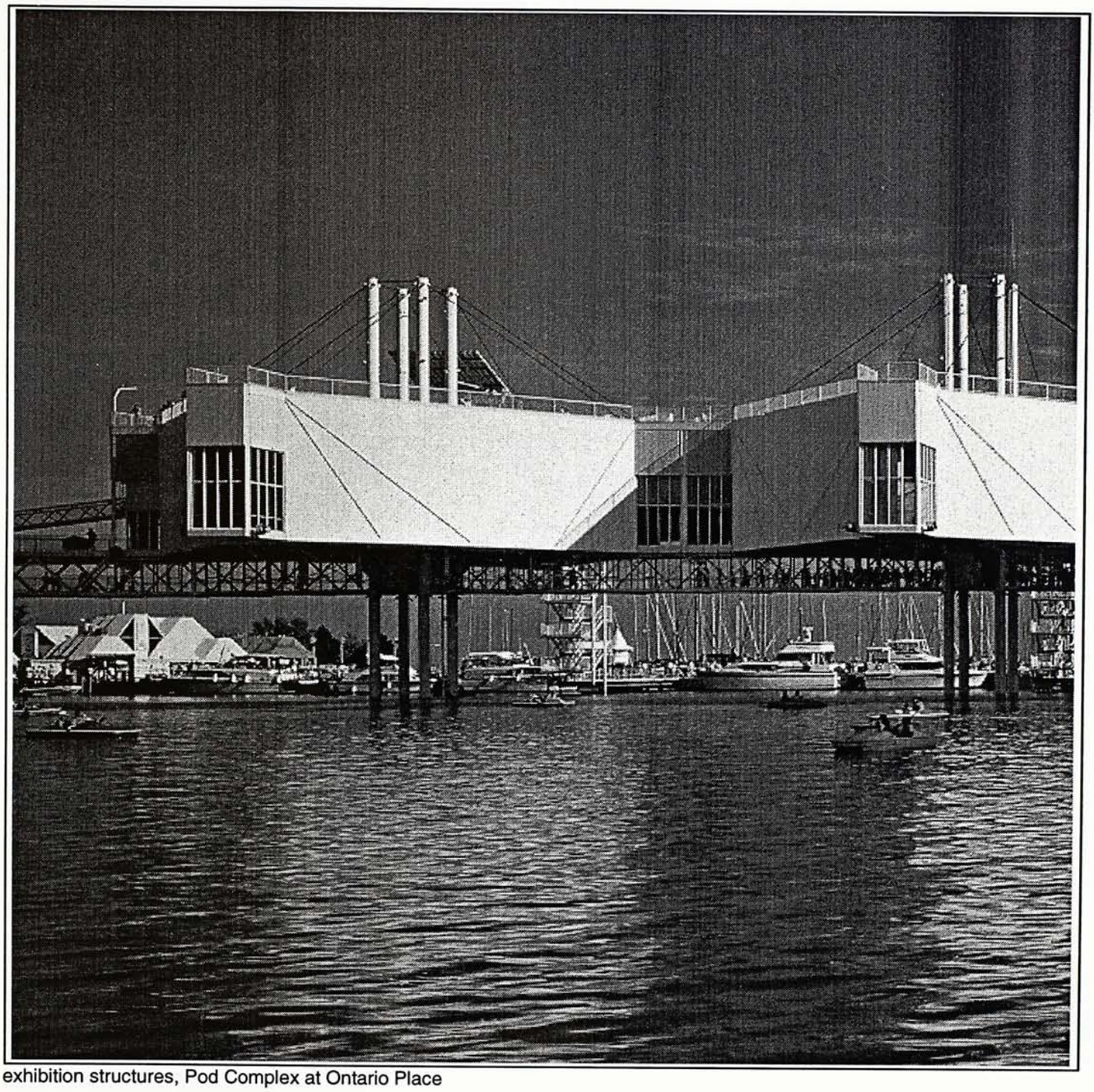
give new life to Toronto's water front.

The exhibition should responds to the social and psycological needs of the city by creating a new kind of urban park

bibliography:

Process Architecture, issue 96, compositin of Oceanic Arcitecture, p.p. 36-47

structure over water



exhibition structures, Pod Complex at Ontario Place

structure

steel structure pods spanned over water

land use

exhibition rooms, theater, restaurants

water land use

recreational boat rides for visitors

brief description

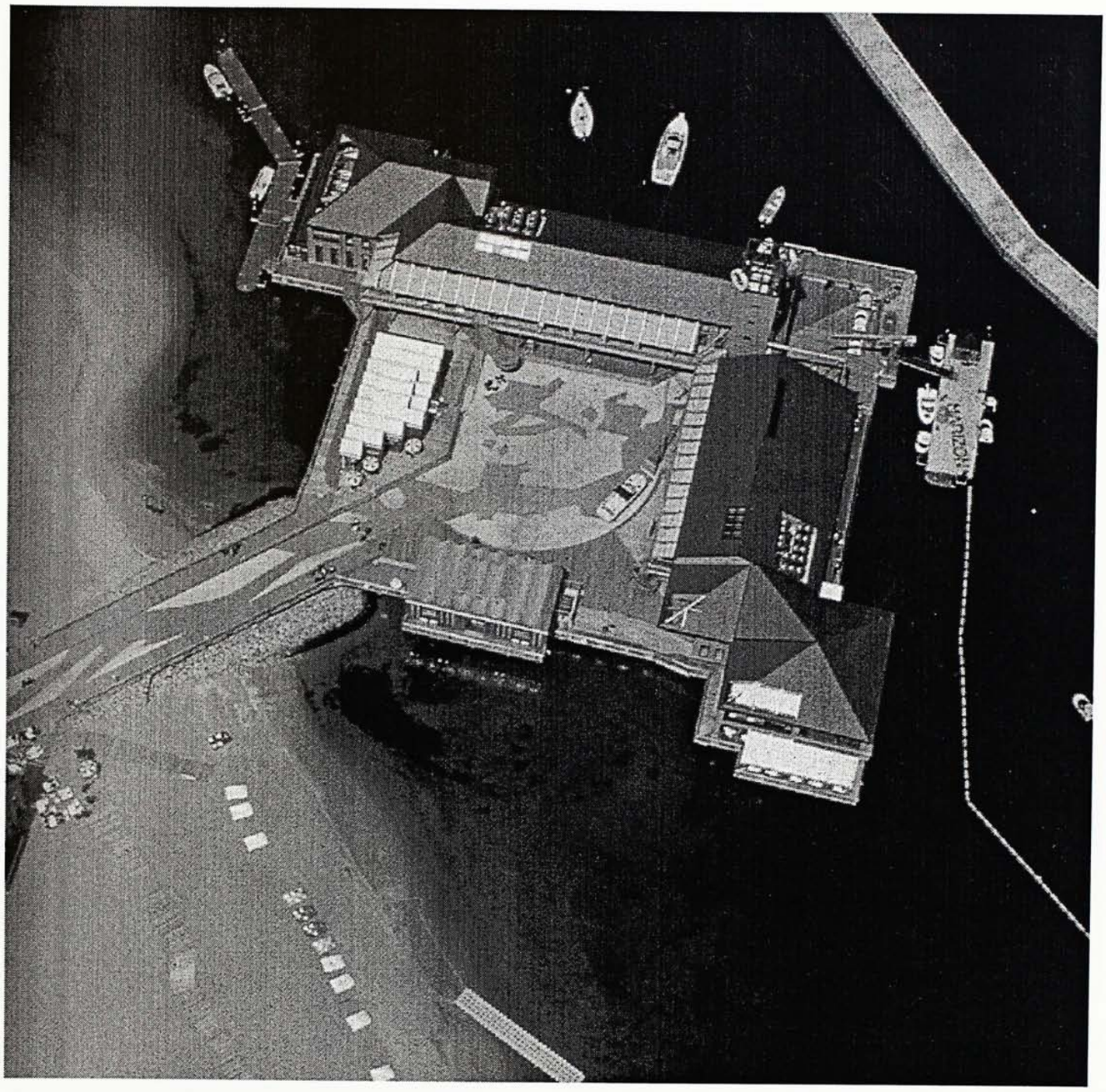
sophisticated high-tecth steel suspended structure spanned over water free up the water spaces underneath for the recreational use.

Bibliography:

bibliography:

Process Architecture, issue 96, composition of Oceanic Architecture, p.p. 36-47

super deck on the sea



Fukuoka Waterfront promenade "Marizon"

structure

a deck out into the sea with walking path connection

land use

Entertainment center, city resort; restaurants, and shops, view terrace, promenade

water usage

beach; marina

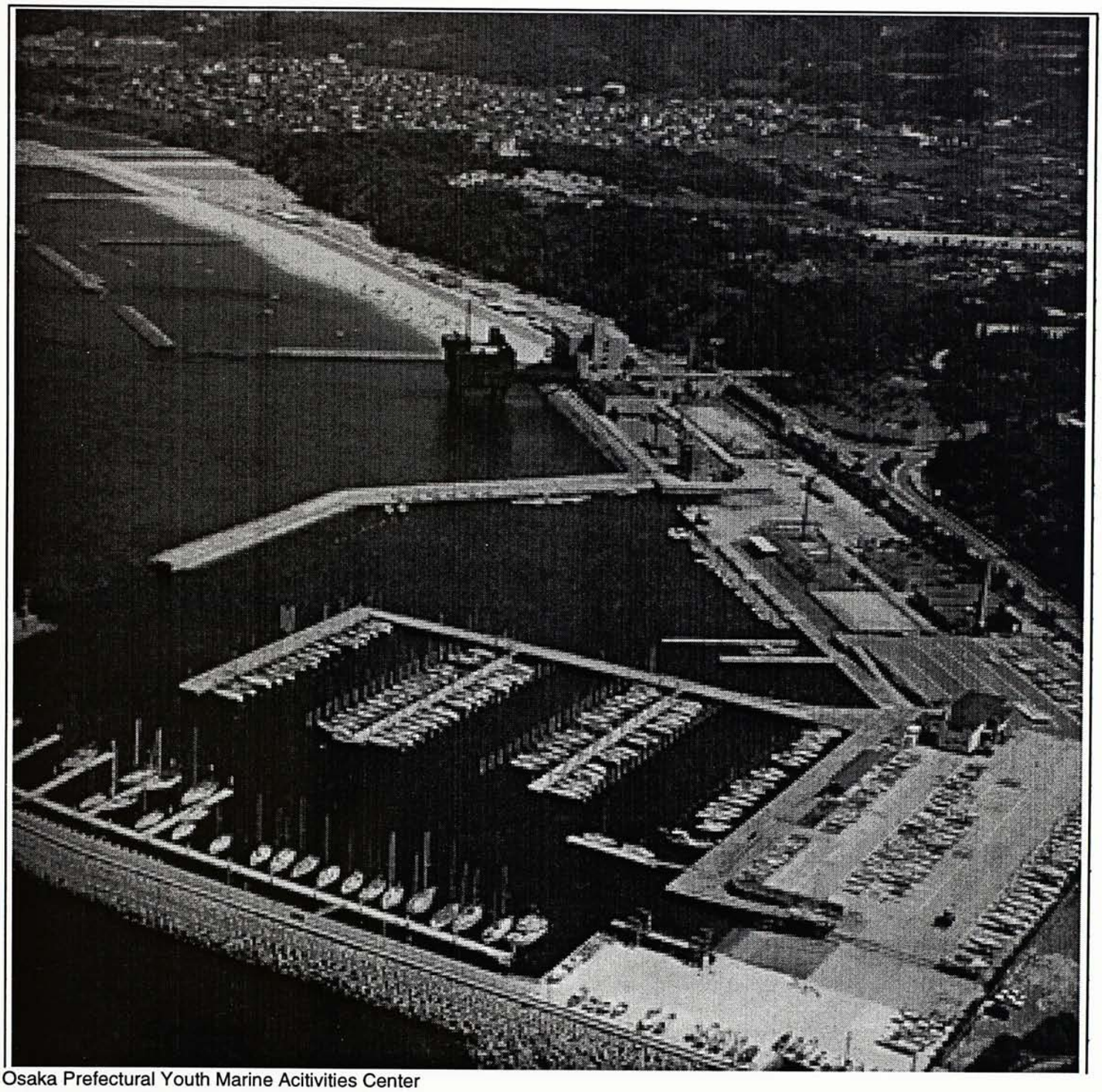
brief description

different from the "Finger pier" type of structure, the complex is a big platform built on the water with road and path connection to the inland. This provide a gap in between the original sea front and the structure itself.

bibliography:

Process Architecture, issue 96, composition of Oceanic Architecture, p.p. 48-53

sea shelter, terrace sea front



Osaka Prefectural Youth Marine Acitivities Center

structure

the center has a combination of sea front structure, included a sheltered marina, a water front landscape area with view terrace, and an exhibition building built over the water out into the sea.

Land use

the whole complex consists of exhibition building, management office, resort beach, plaza, gymnasium, observatory, yachtyard, and piers

water use

sea bathing, marina, marina sports area.

Brief description

the exhibition building was design as primitive and powerful form which symbolized the "spirit of the sea", while it does provide good sea views to the users in the building to look over the whole complex

bibliography:

Process Architecture, issue 96, composition of Oceanic Architecture, p.p. 70-73

Finger piers

entertainment center at Pier 39, San Francisco

structure

long finger piers extended out into the sea along the whole sea front

Land use

entertainment center; shopping mall, plaza, restaurants, and retail shops, water front parks, play facilities

water usage

yacht yard, piers for ferry

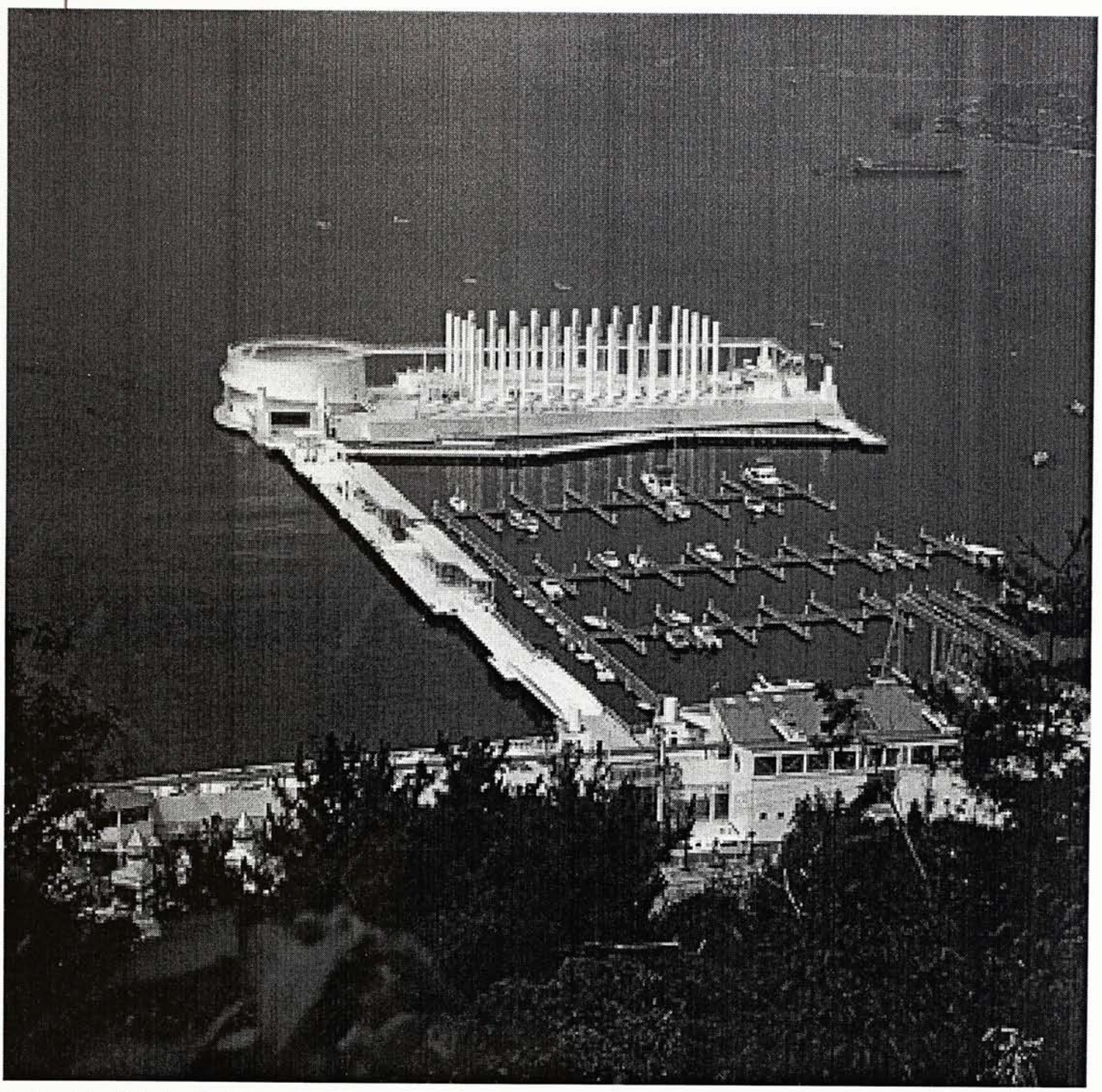
brief description

pier 39 in San Francisco Bay is a major shopping and recreational center. Its original location was an old commercial pier. The development did success in converting a place from wharf and warehouses into an new urban gathering place which provide people more connection to the water front.

bibliography:

Process Architecture, issue 96, composition of Oceanic Architecture, p.p. 74-78

Floating Island



Floating Island Marine Park in Hiroshima, Japan

structure

structure floating on the water,

land use

fisherman's wharf, sea front restaurants, aquarium, theater, gallery, swimming pool, open plaza,

water usage

yacht harbor, aquarium

brief description

the floating structure of the complex was anchored out in the middle of the sea and with the walkway connection to it, the composition forms a protection of the yacht harbor. This is a combination of a extension "finger Pier" type development with the form of sea shelter which serve the both function.

bibliography:

Process Architecture, issue 96, composition of Oceanic Architecture, p.p. 88-93

build under water

Ashizuri under sea observation tower

structure

tower stand in the sea with function rooms under the level of water

land use

undersea park and observation tower

water usage

observation

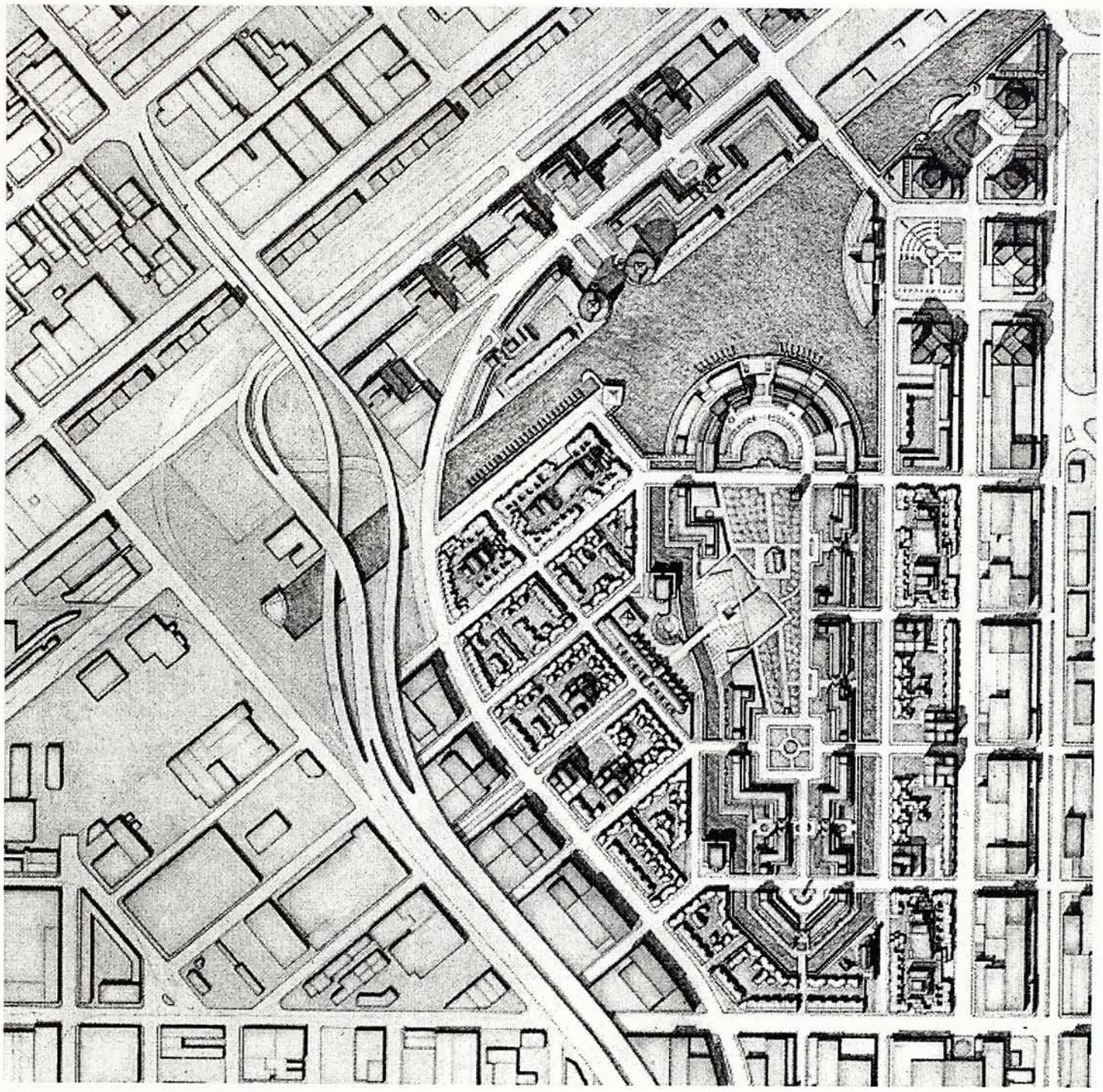
brief description

It has a potential to build under water which use the view under water as park of the view to the built structure. And it does create more dynamic experience for the users.

bibliography:

Process Architecture, issue 96, composition of Oceanic Architecture, p.p. 154-155

canals around urban developemnt



Mission Bay proposal by IM Pei in 1983

structure

combination of canals and urban commercial development.

Land use

commercial towers, low rise residential clocks, open spaces, and other social amenity.

Water use

visual interest

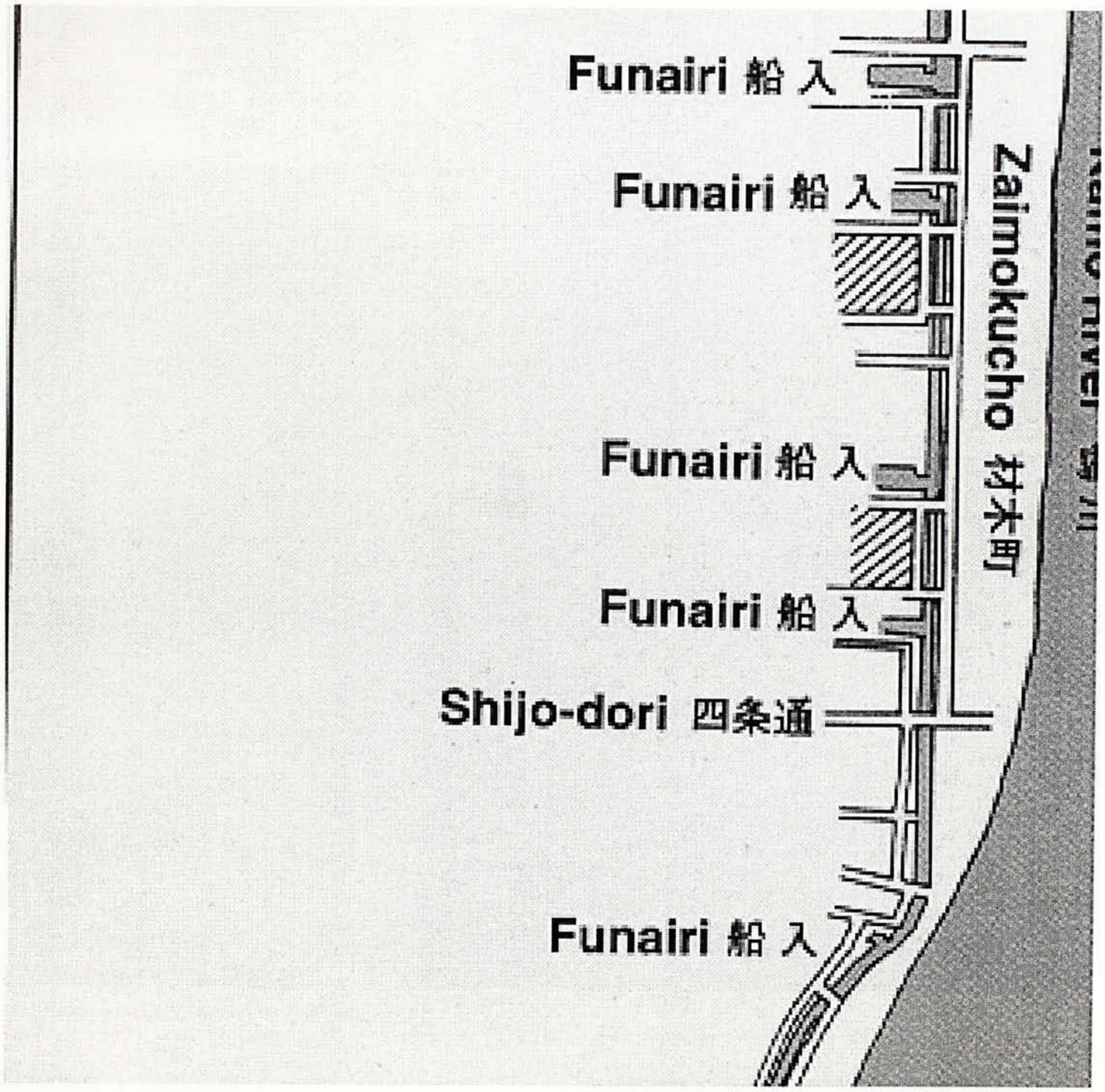
brief description

the planning structure incorporated a ring of canals around the developments in the central of the area. This create a visual corridor to the inner city where cannot have opportunity to be close to water front.

Bibliography:

Paolo Polledri, *Visionary San Francisco*, Prestel-Verlag, Munich, 1990

water ways parallel to the river



Takase River along Kamo River in Kyoto

structure

a rather low traffic and narrow water way along a main river just like bike path on the side of vehicle road.

Land use

Boutiques, residential, local bars, Machiya (houses with half of it standing on the rive bank)

water usage

watery playground, scenic water way, transportation (in Edo Period)

brief description

Water ways and rivers in Kyoto did provide a good local recreational place for residents and young people. Also the smaller water ways are now mainly for scenic path in the dense living environment.

Bibliography

Process Architecture, Issue 116, Kyoto, Its Cityscape Tradition and Heritage, 1994

Sea shelter and promenade

the olympic port of Barcelona 92 Olympic Village

structure

sea shelter with the embrace of a multi-level promenade

land use

restaurants, yacht clubs, fishing terrace and view platform

water usage

yacht yard, fishing, sailing

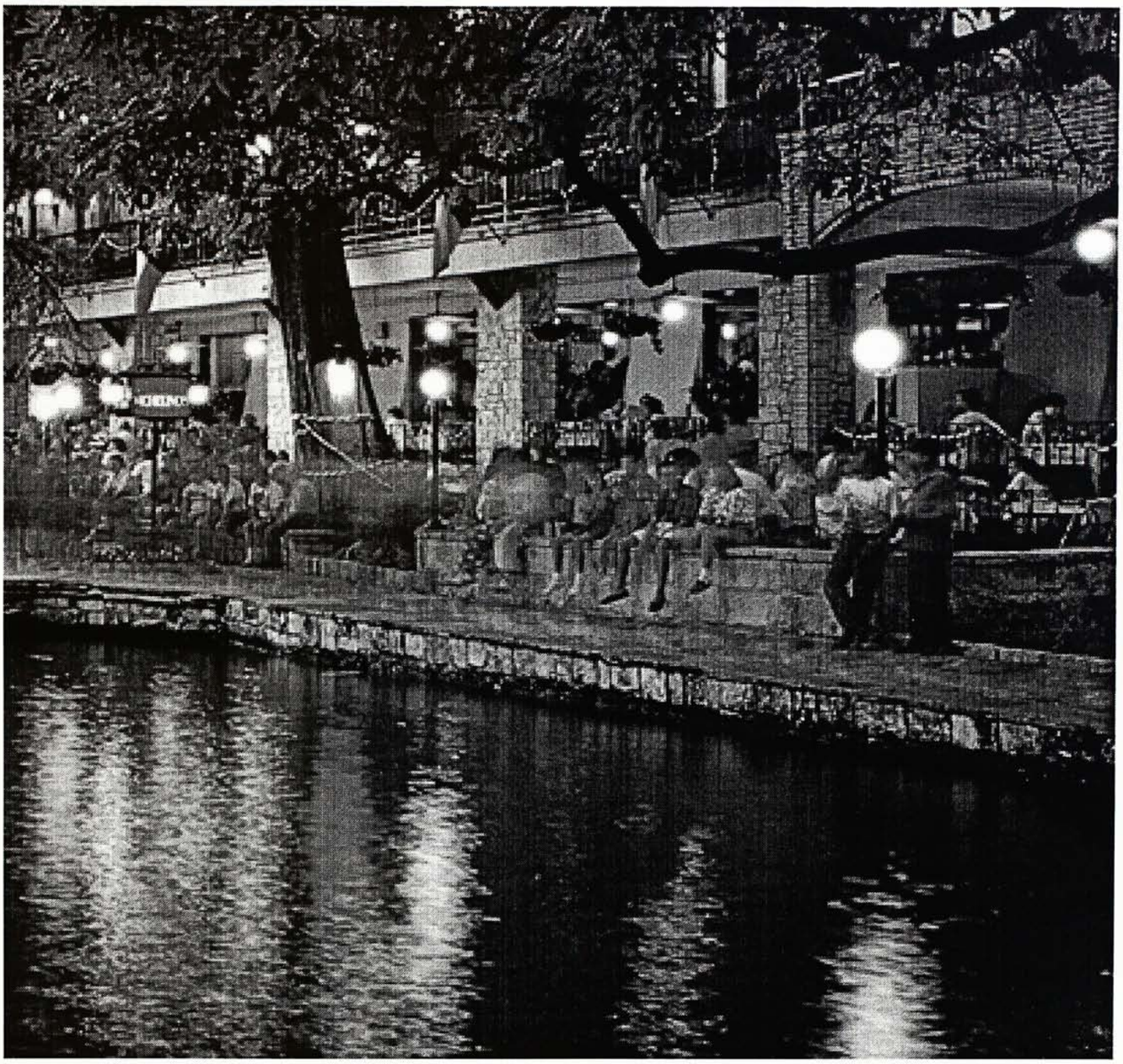
brief description

The project succeeded in locating a significant amount of activity centers on the promenade which extended out the water and embrace the yacht harbor. This keeps the promenade be vital enough and the promenade can use the inner harbor as well as the outside ocean as views.

bibliography:

Martorell, Bohigas, Mackay, Puigdomenech, *The Olympic Village, Barcelona 92,* Editorial Gustavo, S.A., Spain, 1992

river goes throught the city center



view of river side cafe of San Antonio river

structure

natural river goes through the urban area. Designed with river side walks and recreational places

land use

residential, commercial, scenic walks, bikeways,

water usage

scenic boat rides, river taxi, scenic spot

brief description

using a natural river as the center of the city's development and recreational center. They has successfully identified the river's potential aspects and make well planning to preserve, redesign, and revitalize the whole city.

Bibliography:

1. SOM., Marshall Kaplan, Gans and Kahn, *The San Antonio River Corridor, Interim Report for community review*, Feb., 1973
2. Charles W. Moore, Jane Lidz, *Water and Architecture*, Thames & Hudson, London, 1994

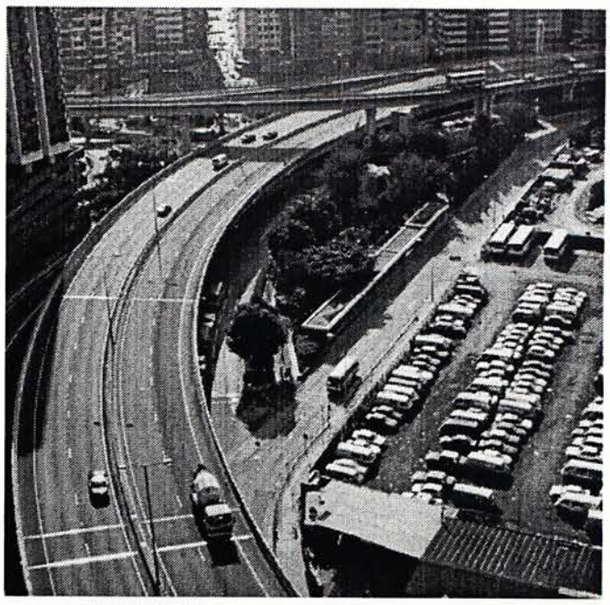
Appendix 2: water front information in HK

30th Oct., 1996

a summary of problems and development potential of Hong Kong's existing water front

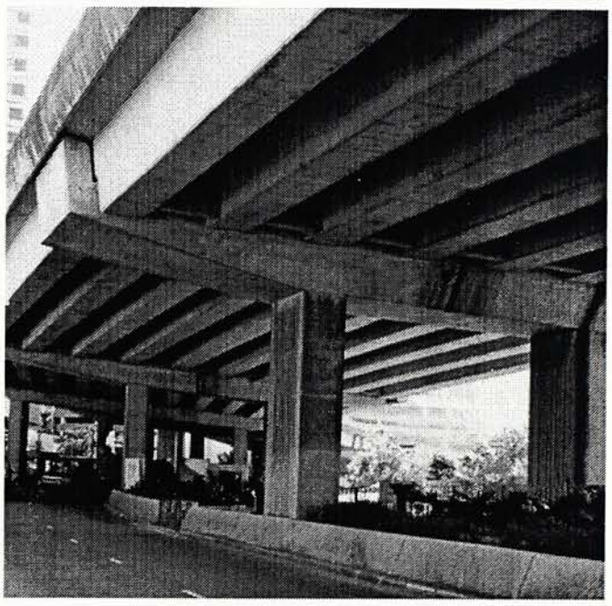
sea front highways

Highways along sea front usually bring to the problem of being physical barrier. The Eastern Corridor, Glousceter Road and Eastern Kowloon Kung Tong Expressway are the major highways that built along the waterfront. The treatments of those expressways are quite the same. However activities happen to be there are different. Lots of people go to the water front under the giant concrete structure of Eastern Corridor for fishing during holidays, but no one go to the water front at Eastern Kowloon. For the Glousceter Road, it is always the problem of physical barrier.



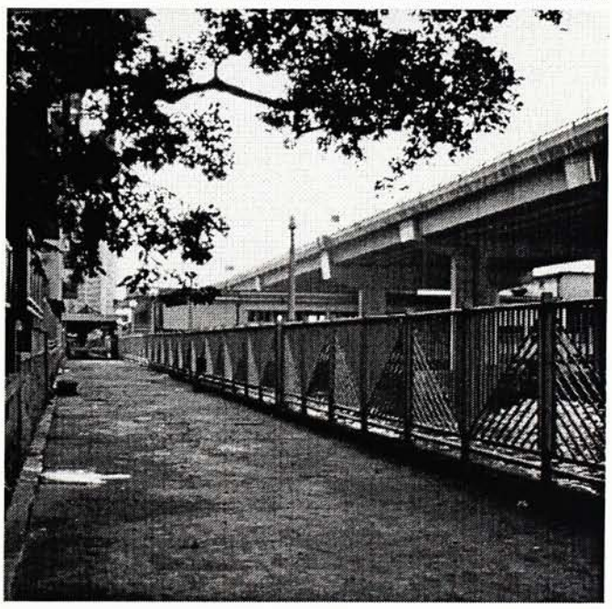
urban pockets

the highway projects usually involve building fly-overs. The spaces which under the fly-over and those cut out by the road pattern would become some areas where are not easy to access. I would call those are the "urban pockets" which is like spaces that neglected by people. Having those areas, together with the highways, it would result in physical barrier to pedestrian. The direction for improvement might be put more effort in creating a continuous pedestrian path ways through those spaces in order to bring people to the water fronts



deteriorated open spaces

government planners have planned plenty of open spaces amount our Metro-area. However, there are tow problems concerning the open spaces in Hong Kong: the first is that some open spaces are badly maintained but still old people have to pack in; second is some open spaces are well defined and maintained but no one goes there. This resulted in a lot of "deteriorated open spaces".



Appendix 2: water front information in HK

30th Oct., 1996

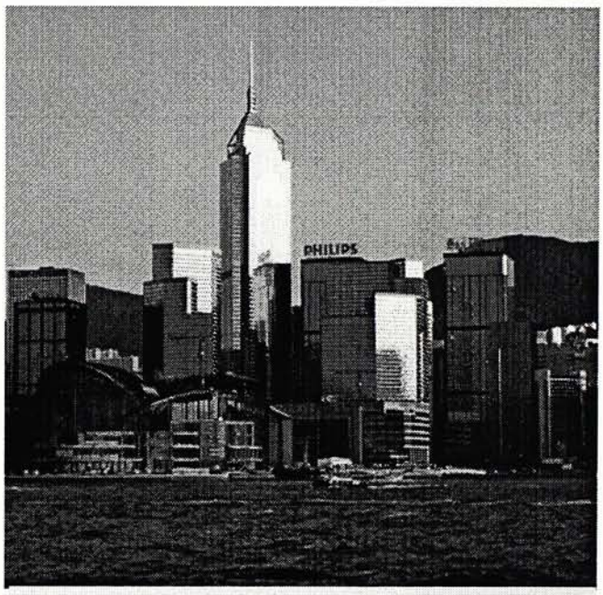
a summary of problems and development potential of Hong Kong's existing water front

non-accessible sea front

Hong Kong is a place surrounded by sea, however not the entire or even a half of the urban area sea front is accessible by public. Large extend of sea front is occupied by industrial area, warehouses, and cargo loading area. People now are fighting against this right to access sea front, such as they would go to the concrete edge (less than 1/2 meter wide) of a warehouse next to the sea for fishing

visual connection

Most of the sea front buildings are tall and packed. The season might be the maximization of economic yield from having sea view apartments and office space. This resulted that only the front row of buildings facing the sea can enjoy the connection with the water body. The district behind the front row is another world.

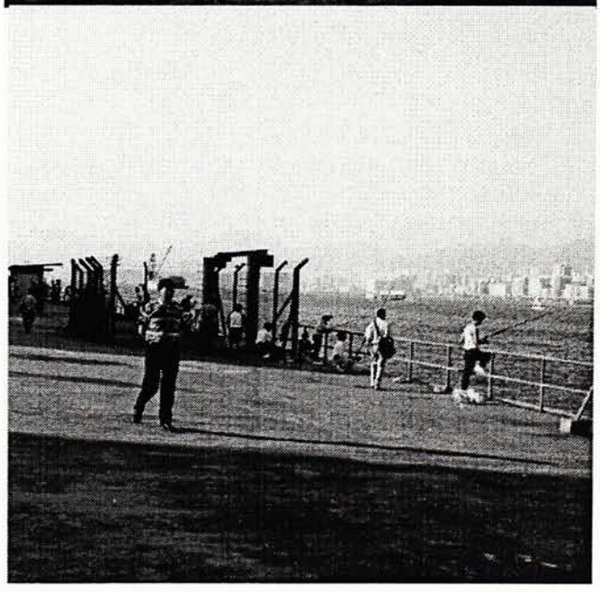


continuation

the well design water fronts in Hong Kong are always lack of continuation. For example, the TST East promenade end at a strange point near Hung Hom. On the contrary, the end at TST Pier is quite pronounce.

Water front & activity center

The urban activity center can the water front are always separated in Hong Kong. Promenades in Hong Kong are usually hard landscaped area only, without any connection to other activities.



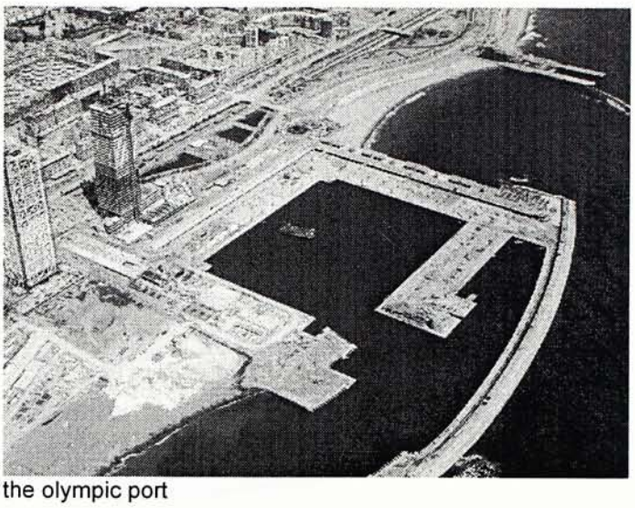
case study La Villa Olimpica, Barcelona 92

25 Oct., 1996

a water front structure with active engagement of leisure and recreational activities

background

New policy of urban development was set out to introduce a series of transformation process to Barcelona in 1980. The policy was carried out based on key projects and pin pointing on urban space. Barcelona was nominated as the Olympic host in 1992. The Olympic facilities were determined to be located in four areas in the city included a sea front district, called Nova Icaria. The place was an industrial sector bordering the Mediterranean. It was identified might be the first link in extensive project which would open the city to the sea with creation of residential neighborhood.



the olympic port

criteria and methods

infrastructure

reconstitute all of the infrastructure in order to make the sector be habitable in long run. Beaches had to be rehabilitated, and coastline had to be protected and preserved in a stable condition.

continuity of old urban fabric

apply morphological principles which made it possible to read the continuity of the place with the already established adjoining neighborhoods.

integration of the urban district

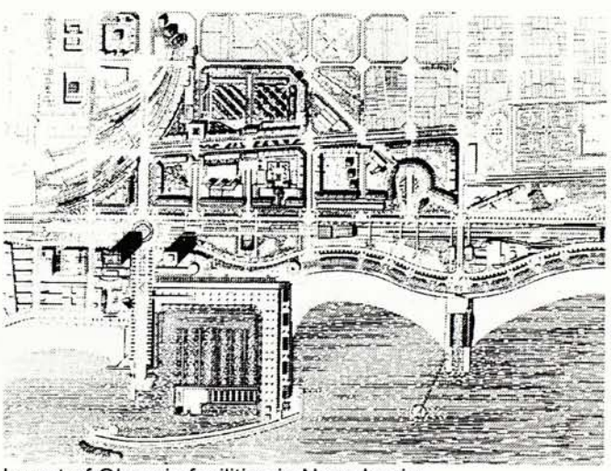
neighborhood urban settlements had to be integrated socially and formally into urban continuum.

1986 and 1987-1989 plan-project

In 1986, basic urban structure had been established on sketch consisted of five successive strips. In 1987-1989 plan project, alternation to the 86 proposal were added.

beaches and protective sea wall

a structure of protective sea wall and a series of beaches were planned along the sea front which

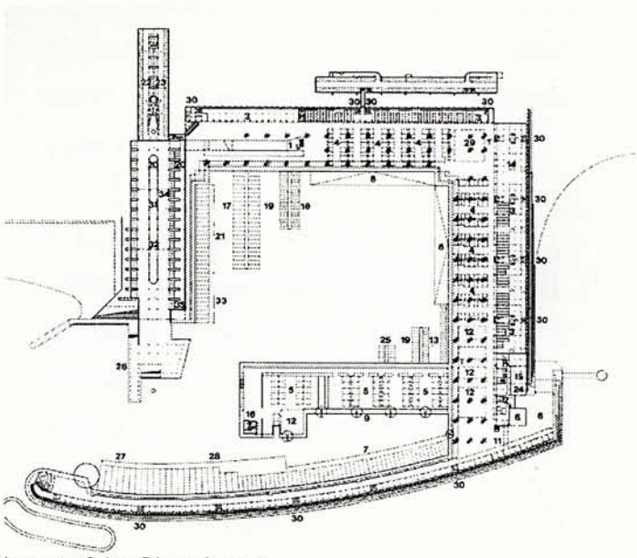


layout of Olympic facilities in Nova Icaria

was aiming at: do away with the out fall of sewage and provide a system for protect the beaches.

sea front pedestrian promenade

the promenade was planned to run parallel to the beaches and the sea walls. It would be an extension of the sea wall strip which to be converted into fully fledged pleasure spot and center of urban activity. Meanwhile it was to be used as base for Olympic sailing events.



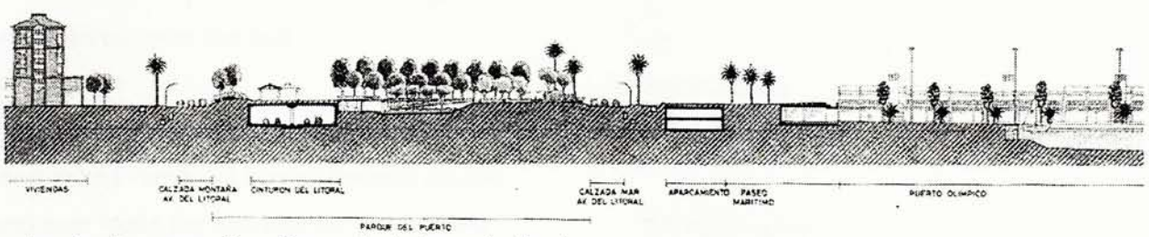
layout of the Olympic port

coastal activities

the plan was a linear accumulation of certain density of activities which would contribute to the urban value. Guidelines have been set up to prevent such activities from constituting a physical or visual barrier between the residential area and the beaches. The proposal was a number of high buildings about 100m high at certain distance intervals at 100 to 150m.

an avenue, the expressway

the Avinguda del Litoral is a segment of the Barcelona's system of ring roads and expressways which planned to absorb large volume of traffic. It constitute a major obstacle to the residential neighborhood and the sea front since it was planned to locate along the sea front. The solution finally was to sunken the road underground and the land surface was replaced by large park / garden and pedestrian route connecting the inner city and the beaches.



section showing the connection of inner city to the water front

urban nucleus

to structure the buildable urban area into "super units" which is similar to street blocks.

system of park

the garden spaces in the interior of the "city blocks: reserved for use of nearby communities. Parks can act as: center of public and vertebral axes for neighborhood as a whole.

Olympic Port

Olympic port

the Olympic port is the place serve as the place for holding sailing events. Its planning statement stated the port has to serve not only the needs of the port, but is also required to function as a center of urban activities, utilized as a leisure port and urban reference point.

quays

North-east and north-west quays of the port are to be used as a large urban square with direct views over the interior harbour and with this quality reinforced by special paving and furnishing.

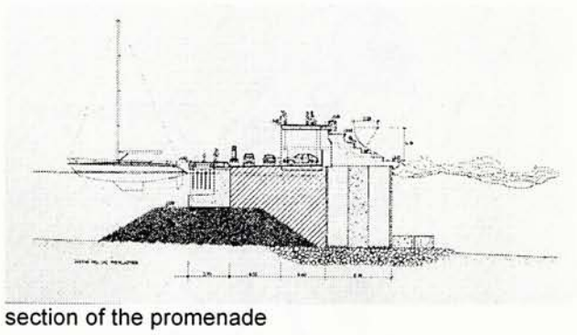
promenade design

connection to inner city. The promenade is the prolongation of a main road, Passeig de Carles I which is a main boulevard going thought the heart of Barcelona

sea view. The north-west promenade is a great balcony looks out over the port

activity. The elevated north-east promenade was designed to has views out across the port on one side and over looks the sea and the Nova Icaria beach on the other. The promenade also accommodate a series of restaurants with outdoor tables and seats. The north-east and south east balcony promenades step down towards the sea in regular ties is for avoiding the usual formal anarchy of breakwaters constructed of an accumulation of blocks and for providing space for occasional use of those who come to bathe and fish.

three objectives. To provide a good base for sporting and recreational sailing; to meet the complex demands of the Olympic events; and constitute an appropriate setting for a new center of activity for the citizens of Barcelona.



section of the promenade

summary

The project had success in terms of laying out the port as an urban activity center. The connection of the port to the inner city had been well considered in the aspects of pedestrian green path connection; vehicular connection as the end point of a main avenue; and provide visual corridor to the inner city.

structure

a system of sea wall with combination of beaches and a sheltered port

land use

Restaurants, yacht clubs, resort beaches.

water usage

pier for yacht sailing, swimming

bibliography:

Martorell, Bohigas, Mackay, Puigdomenech, *TheOlympic Village, Barcelona 92*, Editorial Gustavo Gili, S.A., Spain, 1992

case study San Antonio, Texas

26 Oct., 1996

fully utilization of river as the back bone of the city

background

the project was a restructure of the river basin district of San Antonio river. Issues of transportation, residential / commercial spaces demand, transportation, social facilities, etc. have to be addresses. However, the aims of using the river as the regional culture corridor, and creating the river as the neighborhood to the city were chosen to be the main planning direction.

the river

flood control

straightening, deepening, and paving the river channel to allow greater discharge. Roller gates, radial gate dams were planned for the control of flow volume.

Quantity flow

keeping the river at normal flow, dams and series of lakes are planned

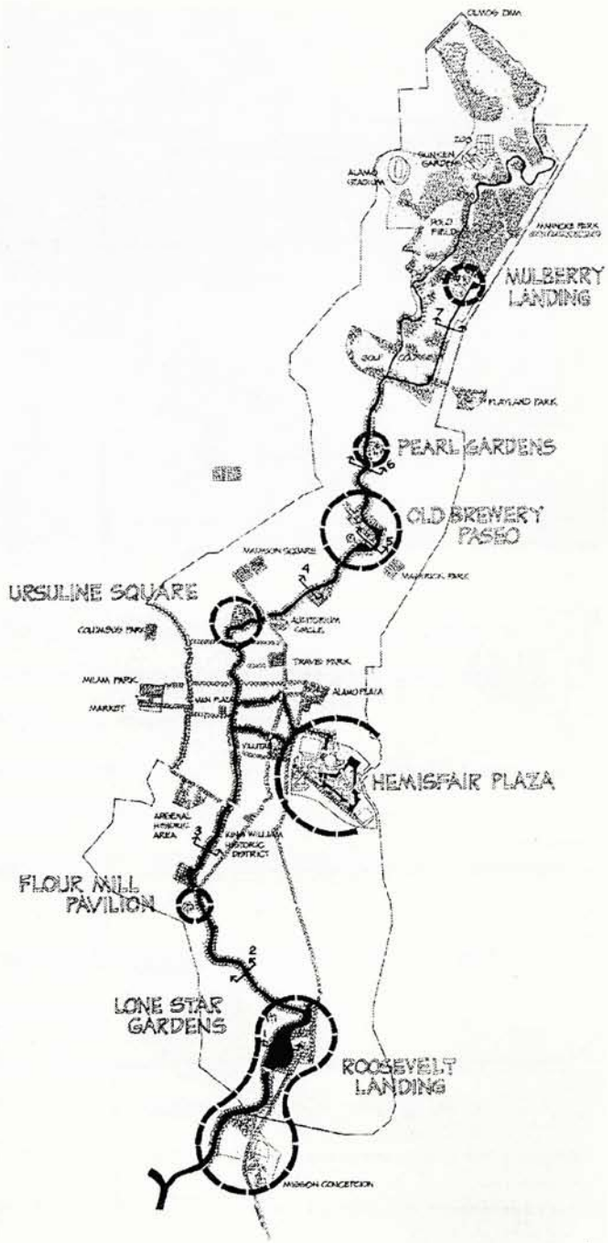
Quality flow

to restore the quality of water to visual acceptability and recreational standards

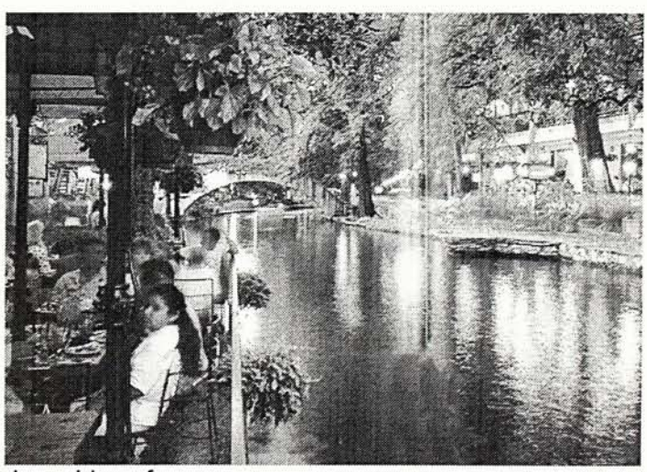
- a system of storm drains to be installed where by the initial run-off can be delivered to sewage treatment plants.
- installation of an aeration system
- periodic dredging of silted basins
- anti-pollution ordinances to be set up
- campaigns of public education on river environment protection
- prohibit of use of outboard motors within the corridor.
- filtration system to renew stagnant water
- a water recycling system

open space and recreation

river as a linear park of ultimate diversity. provide linear access through the river corridor;



activity points along San Antonio River



river side cafe

provide three types of corridor long access through the river park: boats foe sightseeing; foot path designed with resting places for the entire length; bicycle path provided with lighting, furniture, landscaping, and bike rental / repair station.
the three types of movements mentioned along the river is to like the whole spectrum of varies activities spaced along its banks so that the river becomes one long, ever-changing park.
extension of open space and parks linkages into special streets. i.e. scenic drive, commercial boulevards, arterial boulevards, parade streets, etc..

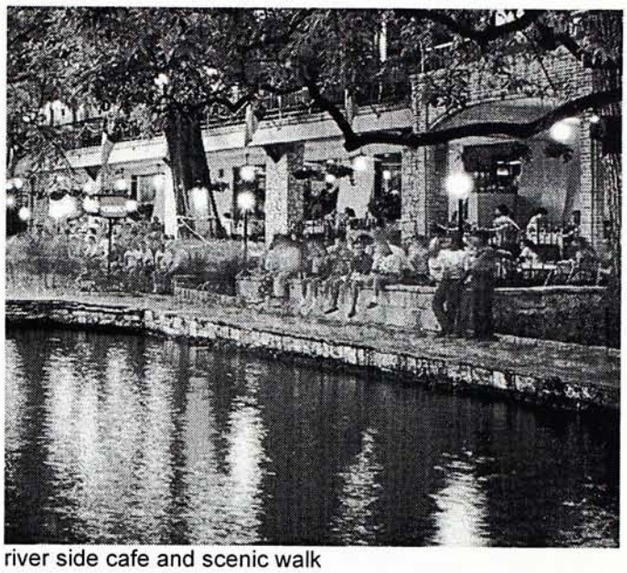
the corridor as the regional center

regional traffic

regional traffic would be separated to the river corridor in order to provide: traffic by pass for the river corridor; radical system of arterial, and separate traffic from residential and other sensitive area

down town development

economic revitalization in down town region. Plans designed to inspire private investment within this refurbished core-city environment to produce a more intensive level of retail, office and visitor activity, as well as clusters of riverside apartments. Physical revitalization of the region was not by expanding the area but by redesign and upgrading of all aspects of use. This was aiming for the visual beauty and uncongested grace, its vista open to the river and to focal area of activity.
encouragement of compatible mixed use.
Encourage blocks fronting connecting streets to be developed on its own character and specialization.
Rationalized parking relocated to new development.
concentrate circulation and transportation in terminals and inter-change points.


river side cafe and scenic walk

design landscaped pedestrian path, separated from the traffic, and provided with benches, drinking fountains, restrooms, etc..
impose design controls to private developments in scale, materials, stage, sitting, signing, particular attention should paid to special historic buildings.

neighborhood life in the corridor

housing

provide decent housing for corridor residents who want to be remain, phased or priced
provided middle to high income housing for people drawn back to the corridor by the revitalization program
revitalization programs to generate employment in retail, office employment and local employment and local government sector

summary

using a natural river as the center of a city's development. They had successfully identified its potential aspects and make well planning to preserve, redesign and revitalize the city.

bibliography:

Skidmore, Owings, & Merrill, Marshall Kaplan, Gans and Kahn, *the San Antonio River Corridor, Interim Report for community review, Feb. 1973*

case study San Francisco, Northeastern waterfront 20th Oct., 1996

a waterfront redevelopment aiming at improve urban living environment and enhance the city's identity

background:

The waterfront area used to be a tourist resort and commercial center of U.S., and the main activities are tourist sight-seeing and business.

The area has a history more than 200 years since its discovery in 1775.

The gold rush in 1840's brought the people to the place and contributed to the rapid growth.

Land was not adequate then, and reclamation was the solution until 1940's.

Northeastern waterfront of San Francisco; the pier on the bottom is the newly built Pier 39

Pier 39

The redevelopment project in Pier 39 was a conglomerate of commercial for renovate the old pier. Restaurants, specialty shops, play facilities, berths, parking lots and water front parks were planned to be the elements of the project.

Pedestrian route through ground and second floors were design aiming at providing a pleasant shopping area

Open space was planning stretch linearly through the building complex to be built with a view of San Francisco Bay.

In order to retain the old image of the old pier, wood decks and pitched roofs were used as part of the architectural language.

summary

this project show the possibility of integrating piers with commercial and retail facilities which bring peoples recreational and shopping space close to water frant.

structure

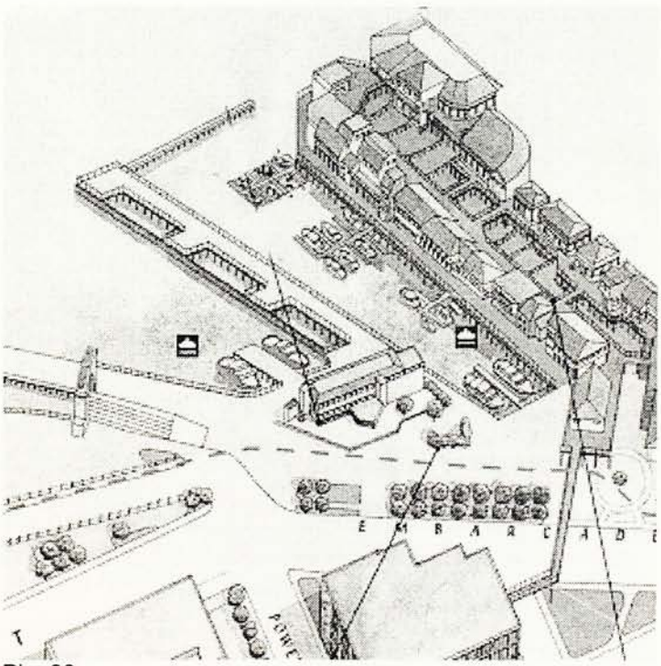
finger-pier; protrude out into the sea; sea frantage were increased.

landuse

shopping mall, retail, restaurant, and yacht terminal

water usage

shelter for yacht and boats



Pier 39

case study San Francisco, Northeastern waterfront 20th Oct., 1996

a waterfront redevelopment aiming at improve urban living environment and enhance the city's identity

Mission Bay

The development project in Mission Bay was a major housing and commercial development planning.

Low dense and high dense housing, hotels, office, service, light industries, neighborhood retail, communal spaces, cultural facilities and open spaces are provided / planned.

Four development schemes were done at the period from 1984 to 1989. All schemes have the emphasis on the water front planning.

Basic three design principles were determined by the planning committee:

1. creating enduring street and open space frameworks to guide development as market conditions and land use change
2. creating a San Francisco-style neighborhood picture on established residential and commercial prototype.
3. providing animated and safe streetscape for all residents.

Provision of open spaces along water front was aiming at:

1. give the Bay area a sense of place to become a district, community-wide amenities and gathering place.
2. the project should stimulate significant residential and retail activities.
3. small-scale phased development will aim at enhance the city's overall appearance

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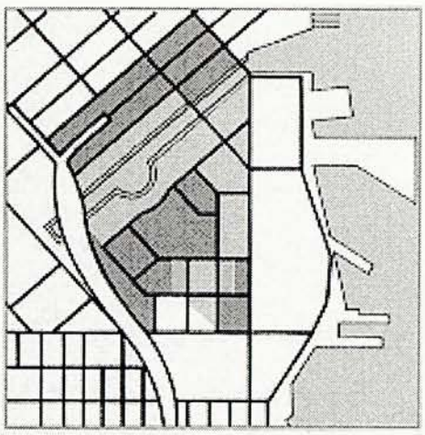
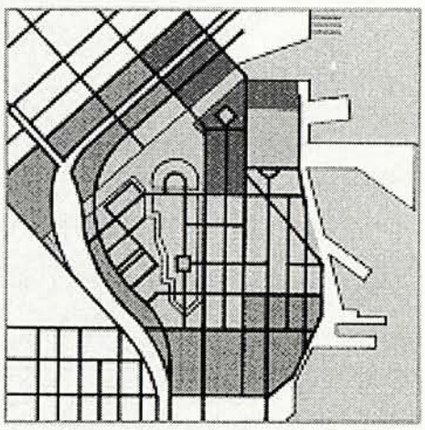
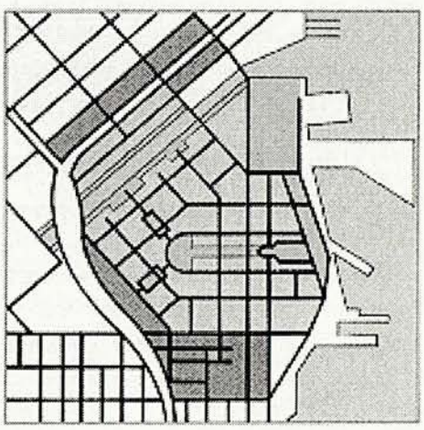
3. *Progressive Architecture*, Vol. 71, no.5 1990, p.p.121-122
4. *Progressive Architecture*, Vol. 69, no.1 1988 p.p.130-131
5. *Landscape Architecture*, Vol.78, no.3 1988 p.p.64-69



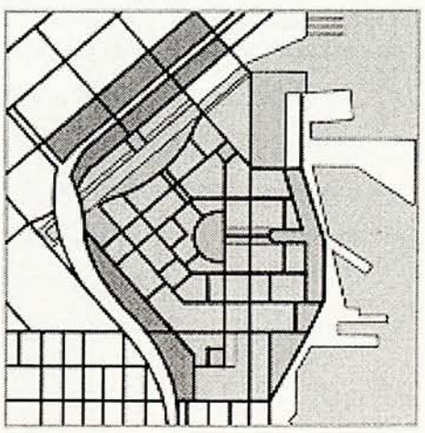
John Carl Warnecke 1980.



I.M. Pei/WRT 1985.



Mission Bay Planning Team 1987.



SOM 1989.

left: four proposals for the Mission Bay redevelopment

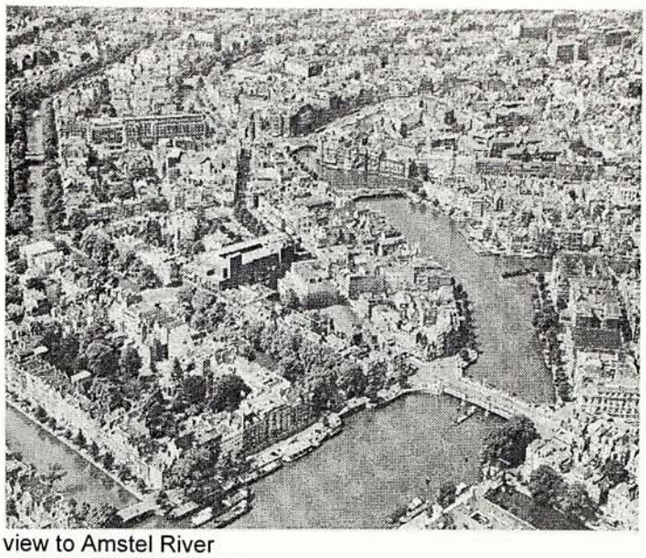
case study Amsterdam 17 Oct., 1996

a city with river and canals at identity

relationship between the city and water bodies

the form of the city in the history was shaping the earth and water against the heavy odds of tide and flood for centuries

the way that the Dutch people chosen is not to overcome and fight against the force of the sea, but to bring nature back into the city, create parkland and amenity. They use canals and rivers to build environmental quality into a growing urban region. Recreational open space, aesthetic settings, outdoor leisure points which related to the rivers and canals are woven into the fabric.



view to Amstel River

history

17th century

semicircular singel (concentric arrangement of canals):

- to protect around the town
- to provide means for transportation and flushing of sewage

three-canals plan:

- proposal to have canals, streets and walks of uniform widths
- provide access to civic market center via land and water
- provide open space for public
- provide benefits for wealthy merchants lived on the river sides.

17th to 20th century

dismantle of old fortification

- ramparts retained for use of parklands and lands for valuable patrician houses
- old civic structure and square at Leidseplein remain as a landmark

Vondel Park

- meanders retained as water landscape and became one of the four open space hinges in the city

Amsterdamse Bos, woods

- vast forest park at about 2,223 acres
- below sea level 16 feet and surrounded by canals
- Recreational facilities built around, e.g. the Olympic rowing basin
- a counterpart of Amstel River wedge of open space

Berlage's plan, 1915

unified street architecture and its relationship to housing

randomly aligned canals used as a form of urbanistic and recreational amenity; make the sea an amenable place to live and play; creating a kind of aesthetic and recreational armature

use of parks and recreational features placed at significant points along edges of new sector

connecting South Amsterdam and Amstel River

Beatrix Park as a landmark for the river to the east

Olympic stadium and educational institutions on the canals links sportpark with Vondel park

continuity between past and present by using existing natural areas of river, field, forest to form frameworks which links old area with new. Hence retain sense of self-identity

case study Amsterdam

17 Oct., 1996

a city with river and canals at identity

Amstel River and bank

housing, large old estates

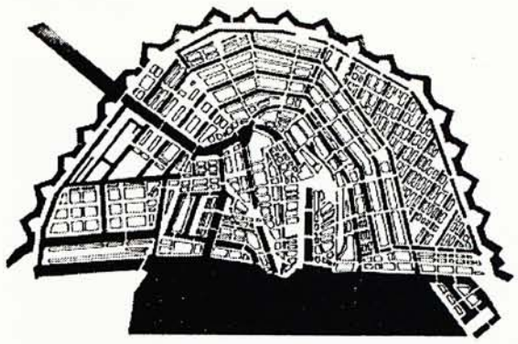
shells sculls, craft maneuvers

people walk, bicycle routes bring to landscape corridor

The public works Department to preserve the Amstel and its setting within a wedge

agricultural land protected

farm lands were changed to new woodlands or converted to active recreational areas



water ways in central Amsterdam

urban canals

preservation and maintaining settings of canal side within old Amsterdam. (historic buildings preservation, preventing disruption of city's architectural character as a whole

keep out express roads or put them underground

landuse

shifting from private castle, houses into public open spaces along rivers and canals.

water use

transportation as well as scenic waterways

identity

the web of waterways became a symbol to the city

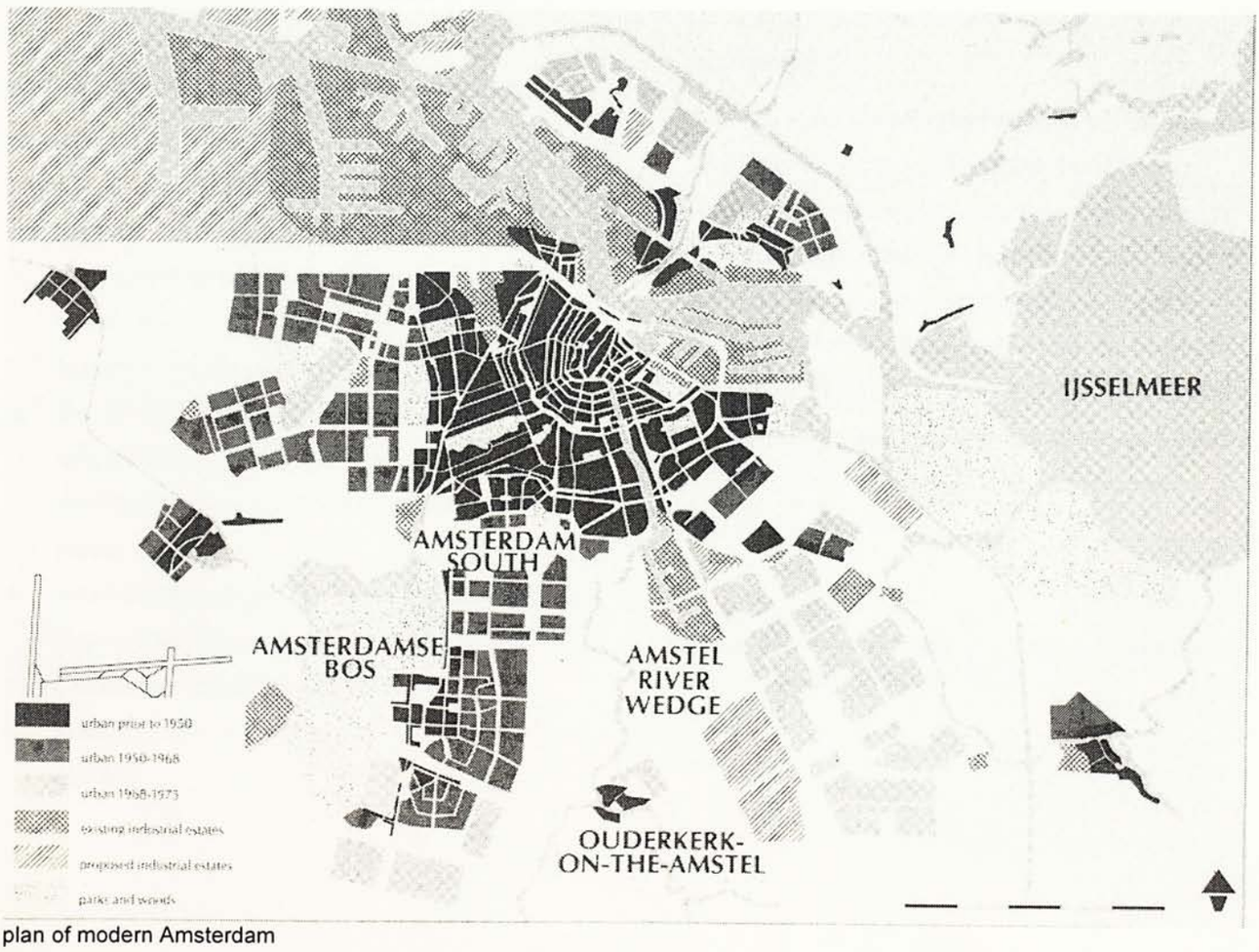
summary

structure

concentric semicircular spider's web of canals and waterways forming a network of transportation.

Bibliography:

1. Roymann, *Rivers in the city*, Praeger Publishers, New York, Washington, 1973
2. Charles W. Moore, Jane Lidz, *Water and Architecture,* Thames & Hudson, London, 1994



plan of modern Amsterdam

case study Zurich, river Limmat and Sihl 20th, Oct., 1996

balancing of river bank expressway planning and river bank environment preservation

background:

In 1962, The federal government of Swiss approved the plan for Sihl expressway as part of the Swiss National; high-way network, which was to build a express way net work on the river bank of river Limmat and Sihl, the central urban area of Zurich.

the city's response:

A group of environmental-minded designers and planners express their objection to the plan.
they asserted that:

1. the plan would destroy the river banks;
2. divided the city into isolated sections;
3. discourage future urban development;
4. make the river banks improbable to be revitalized to a dynamic pedestrian river environment.

An official alternate planned which was to have the high-way elevated on the side of the river.
Another proposal by those environmental-minded designers and planners was to sunken the express way to the tunnel under the right bank of river Sihl.

the criteria for proposal selection:

Study committee was set up to review the proposals, and the following issues were considered:

1. transportation efficiency and parking space demand
2. economic development
3. the visual "wall" effect on surrounding residential and commercial areas; whether the development would have effect on the river views.
4. noise and fumes anticipated under the exposed express way alternative
5. pedestrian access and walkway provision
6. enhancement of open space, and green-planting

the final solution:

final proposal for the expressway plan

Finally they came to a compromise scheme. the "Aussersihl" proposal, which was to build the express tunnel on the left bank of river Sihl. Although the major portion of the Sihl expressway was revised to achieve greater compatibility with environment, the downstream crossing remains unchanged, a large interchange with severe negative impact on the river landscape.

summary

It is a project showing the balance of consideration of economic factors, transportation efficiency, effects to living environment and preservation of water bodies. Although the final solution was not the most favor to the environmental supporting people in Zurich, it does show how the original government proposal was altered through the public consultation process and the process had really made contribution in preserving part of the environment of Sihl river.

Bibliography:

Roymann, *Rivers in the city*, Praeger Publishers, New York, Washington, 1973

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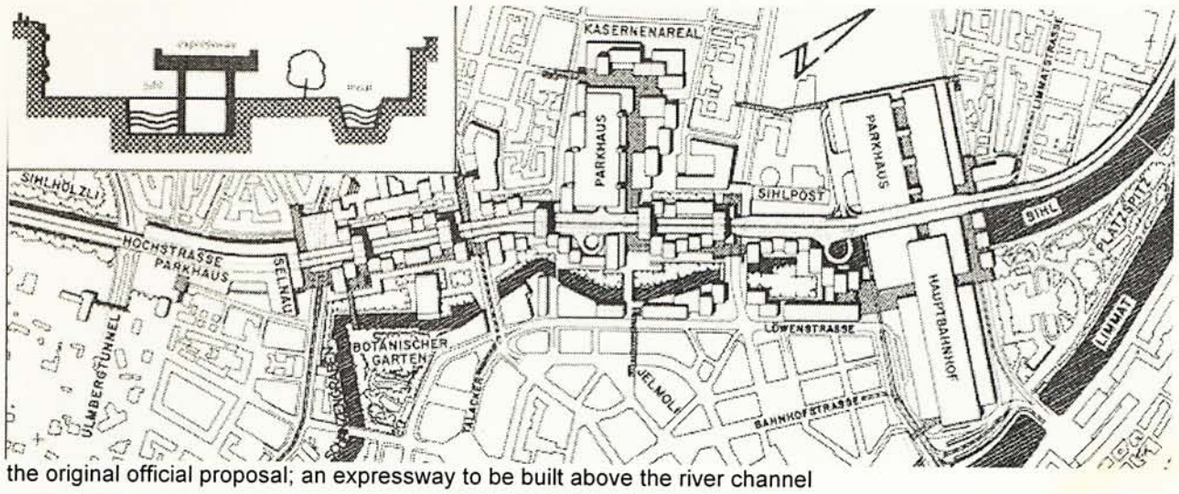
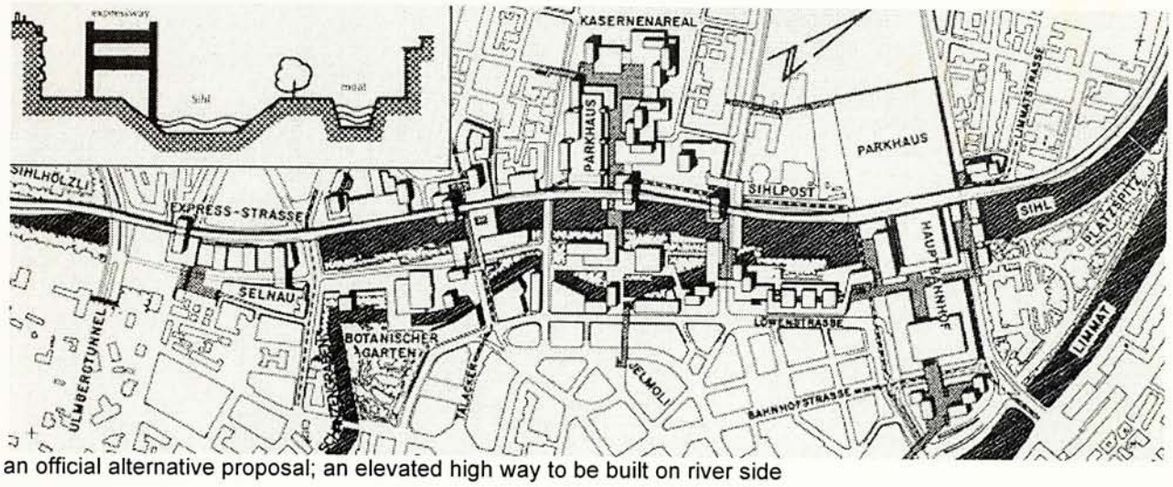
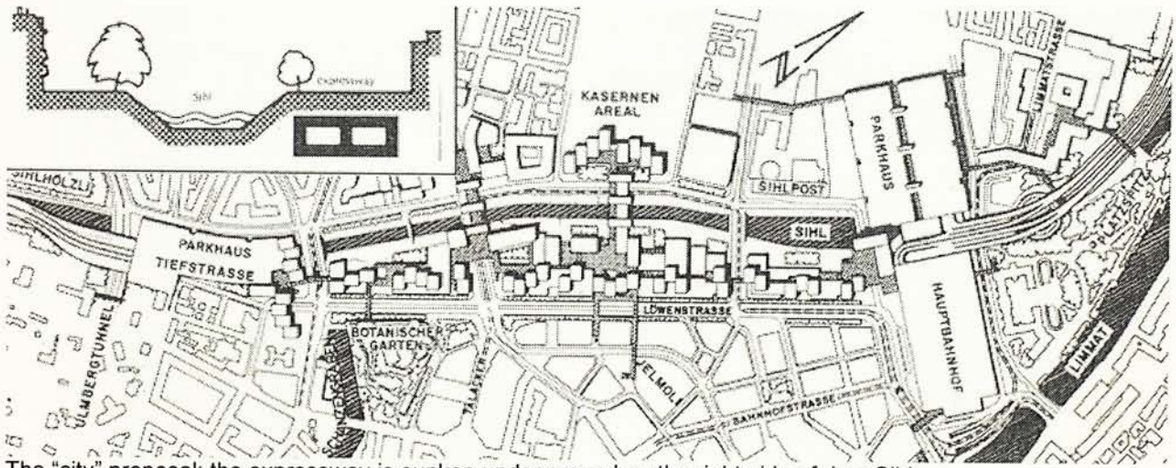


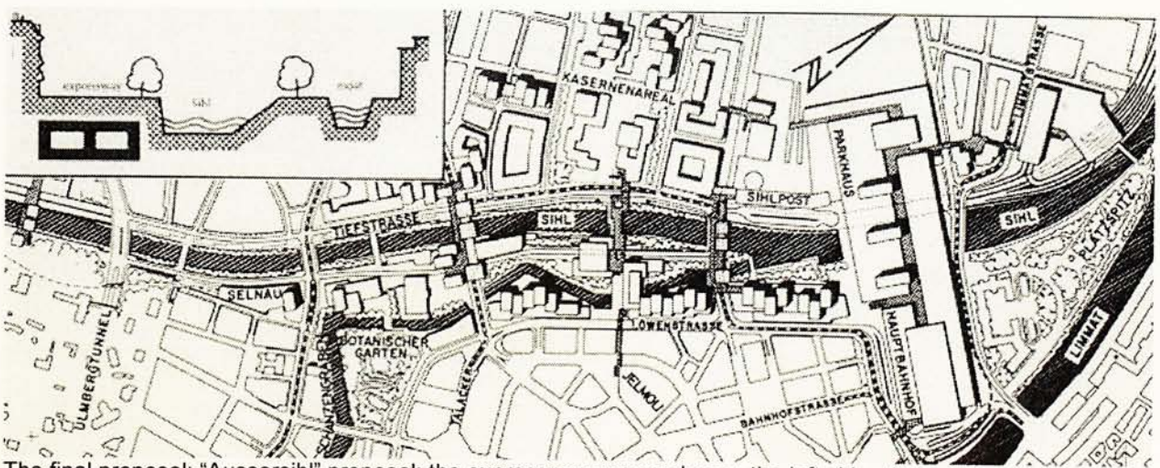
the original official proposal; an expressway to be built above the river channel



an official alternative proposal; an elevated high way to be built on river side



The "city" proposal; the expressway is sunken under ground on the right side of river Sihl



The final proposal: "Aussersihl" proposal; the expressway was sunkenon the left side of the river